

# A University Campus in a Small City: Discovering which Sector Benefit

**Presented by:**

David Dyason

NWU - School of Economics

*This study:*

To identify and quantify the sectors benefit as a result of expenditure made by a university campus; “university-sector linkages”.

# Some background

- Universities contribute to the quality of human capital, which is a key for economic development.
- Universities are regarded as institutions that, *inter alia*:
  - a. facilitate knowledge creation &
  - b. provide a platform where knowledge can then be shared with students and industry through teaching, learning and research, to benefit the economy.
- South African Government:
  - Ensuring skilled professionals for the economy - improve higher education through skills development and promoting of research (Department of Higher Education & Training, 2015:9)
  - The National Development Plan (NDP) of South Africa promotes the improvement in quality of education and the accessibility to education as key factor of economic development (National Planning Commission 2012:16).
  - To this end, government has established two new public universities in provinces that lack these institutions, the Northern Cape and Mpumalanga Provinces.
- However, is the economic benefit created by universities only manifested through education and research (knowledge)?

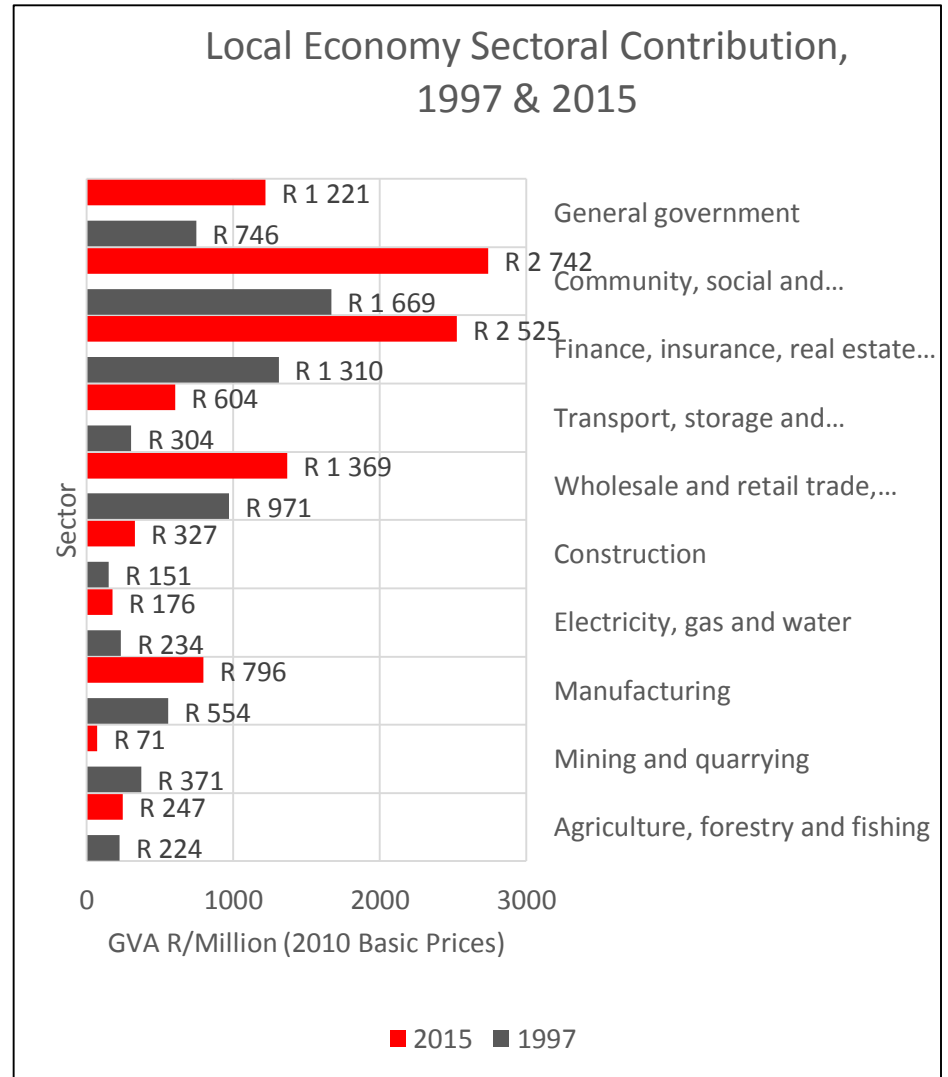
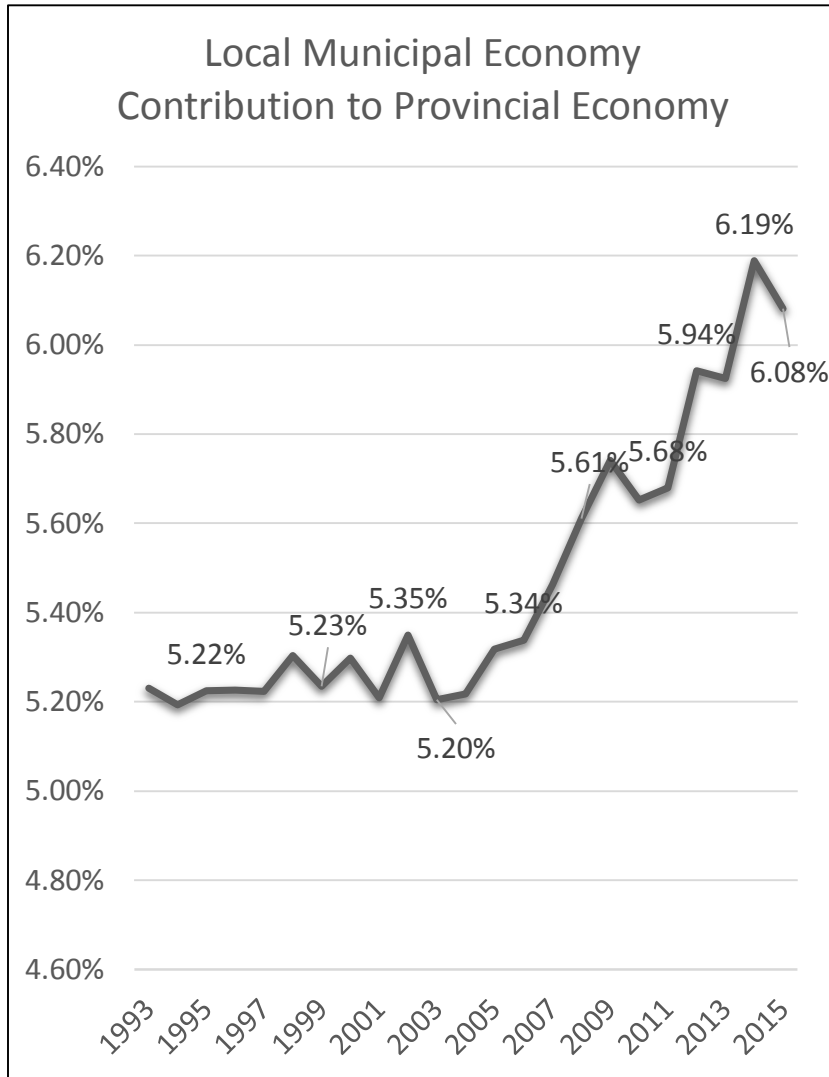
# Some background

- Universities represent institutions which are not only important for national economic growth but also to the **benefit of the local economy**, especially when considering that universities are considered **relatively resilient to business cycle fluctuations** (Steinacker, 2005:1161).
- Reporting on the university-sector linkages is **seldom reported** on within economic impact assessment studies. In the majority of cases the input-output models indicates the **linkages**, but these **are often not reported on**. High value in understanding this link.
- The best way to identify this link is by means of an alternative approach. Bill-of-goods.

# University-sector link. What is the benefit in knowing?

1. The influence of the university on the local economy should not be taken for granted especially when considering that the value of expenditure is **bound to benefit the economy**: generating economic activity and employment.
  2. Furthermore, understanding the university-sectoral link that result from university expenditure provides a starting point in measuring the impact of a campus on the economy (SAM models on provincial level).
- Government is supporting the development of 2 new universities. What sectors are bound to benefit from university expenditure?
  - NWU – Potchefstroom Campus as case study

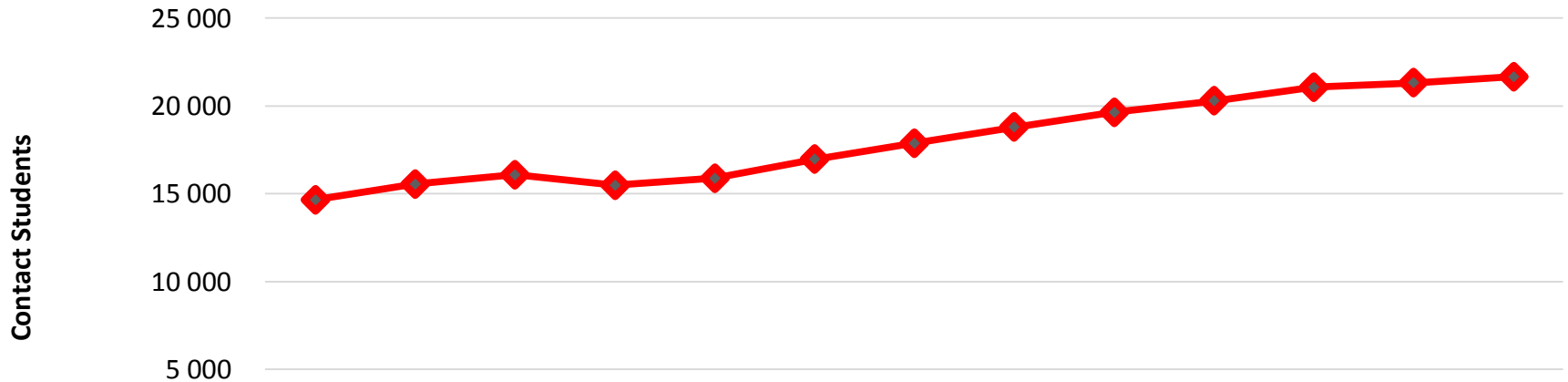
# The Setting - The local economy



Source: Quantec, 2016

# The Setting - The university campus

Potchefstroom Campus: Contact Students



◆ Contact Students

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Contact Students	14 652	15 551	16 079	15 483	15 875	16 953	17 867	18 783	19 632	20 285	21 061	21 320	21 663

The Potchefstroom campus is experiencing a period of growth and expansion which has affected the value of expenditure from the campus.

# What do we know! Literature review

- The majority of university impact studies that followed made use of the **economic base approach**, albeit with adjustments to the model proposed by Caffrey and Isaacs (1971).
- These models are a **quantitative** representation for direct and indirect impacts on the economy that are subject to the **operational and capital expenditure**, as well as **university employment** (Drucker & Goldstein, 2007:24).
- The information is then applied to calculate **multipliers**, which shows the **additional benefit gained in the economy** as a result of spending and employment from the institution, to illustrate the gain to the economy.

# Approach! How to calculate the benefit?

- **Bill-of-Goods Approach** - considers the specific investment or expenditure value made by a university, which is a more detailed analysis than the off-the-shelf input-output analysis (Ambargis *et al*, 2011).



## Campus Expenditure to Sectoral Classification

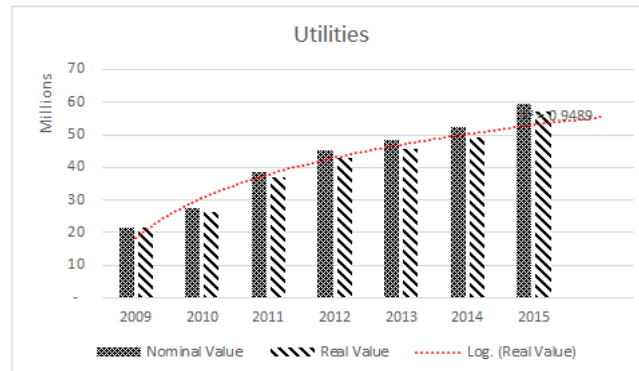
**Expenditure value per activity      SIC code for the activity      Relevant sector for the activity**

Activity	Value		SIC Code		Sector Description
D~INSURANCE	R 2 663 434		821		Finance & Business
D~STATIONERY	R 3 161 813		623		Wholesale & retail trade
D~PHOTOCOPYING AND PRINTING	R 6 954 206		889		Finance & Business
D~AUDIO-VISUAL MATERIALS	R 230 567		623		Wholesale & retail trade
D~PRINTING	R 5 449 497		325		Manufacturing
D~PUBLISHING	R 3 295 075		324		Manufacturing
D~COURSE MATERIAL COSTS	R 1 911 219		325		Manufacturing
D~COURIERS AND POSTAGE	R 6 599 046		751		Transport, storage & communication
D~TELEPHONE COST	R 5 287 519		751		Transport, storage & communication

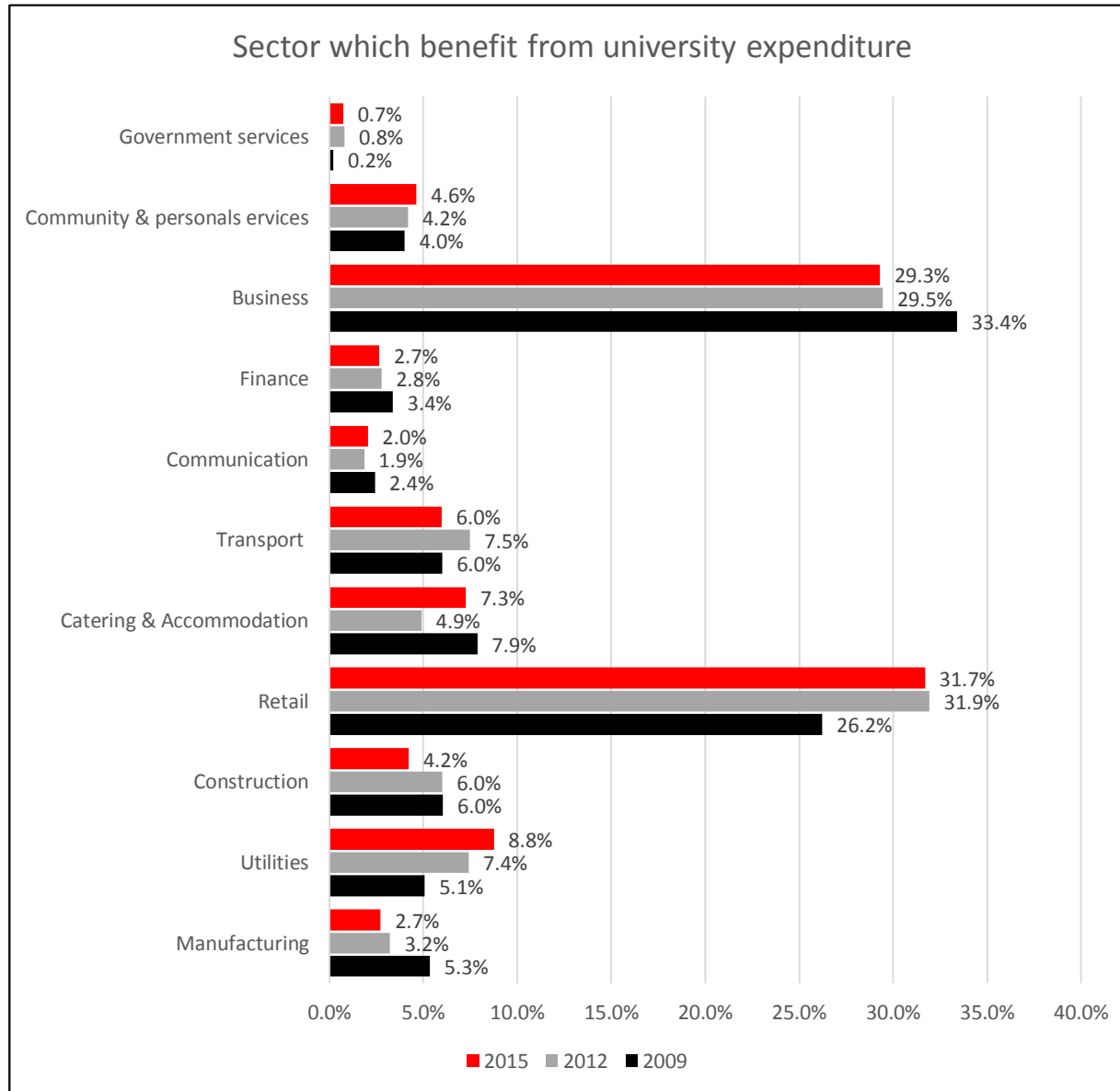
**Adding the values for each of the sectors to obtain the total value per sector per year**

SIC Code	Sector	2009	2010
3xx	Manufacturing	R 22 813 162	R 19 519 927
4xx	Utilities	R 21 679 793	R 27 583 767
5xx	Construction	R 25 818 489	R 28 362 733
6xx	Trade	R 145 753 114	R 143 967 311
7xx	Transport & communication	R 35 968 262	R 44 600 898
8xx	Finance & business	R 157 234 246	R 158 394 253
93x	Community & personal services	R 17 146 722	R 18 687 280
91x	Government services	R 536 119 023	R 624 683 315
	<b>Total</b>	<b>R 962 532 811</b>	<b>R 1 065 799 486</b>

**Illustrate the expenditure trend per sector for the campus**



# The sector that benefit?



Source: NWU & author's calculations, 2016

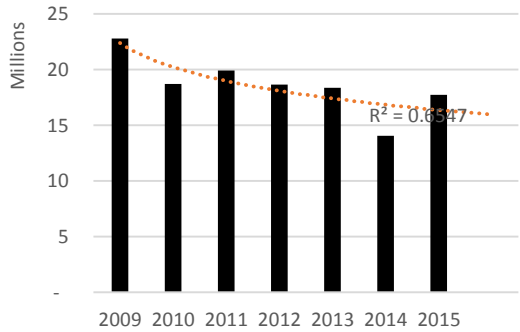
Note: Excluding salaries



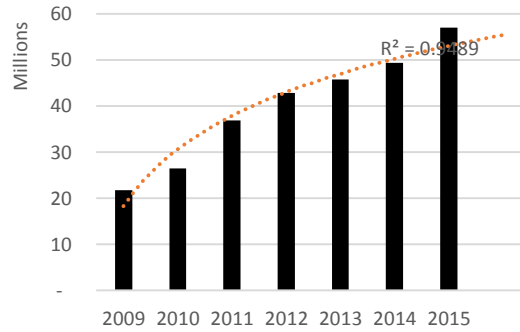
# The sector that benefit?

- The expenditure from the Potchefstroom Campus of the North-West University benefits, largely the tertiary sectors (85%)
- Three sectors in particular, the retail and business services sectors, gain the most from university expenditure, while expenditure growth in smaller sectors such as catering and accommodation and utilities shows growth prospects.

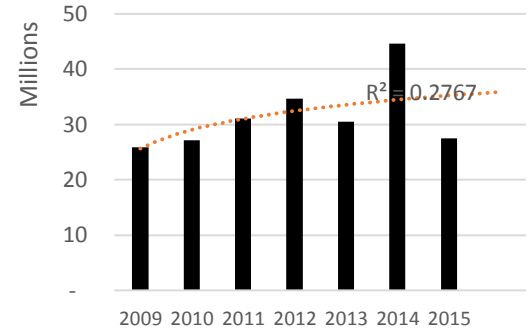
### Manufacturing



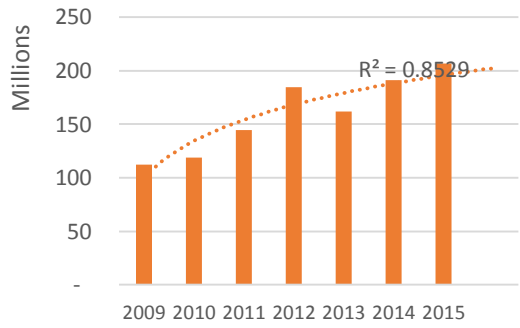
### Utilities



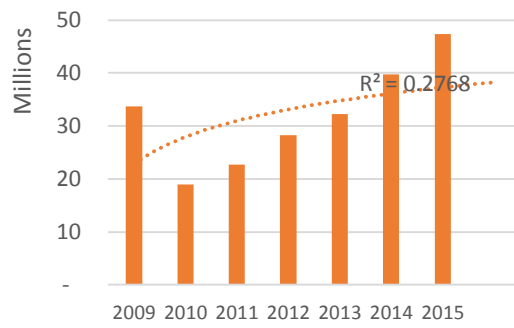
### Construction



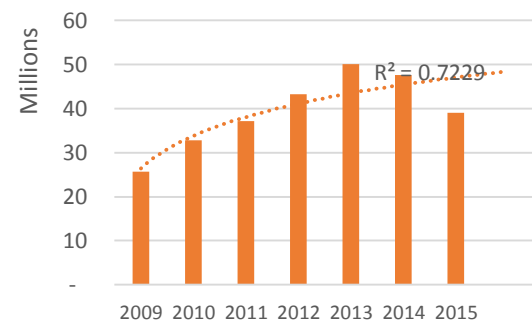
### Retail



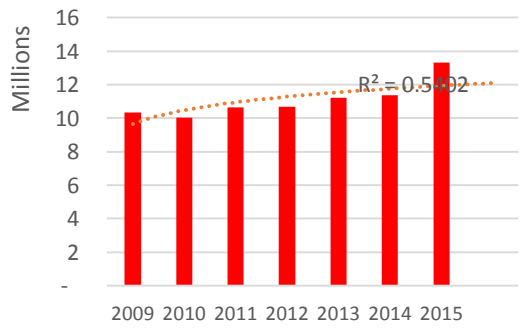
### Catering & Accommodation



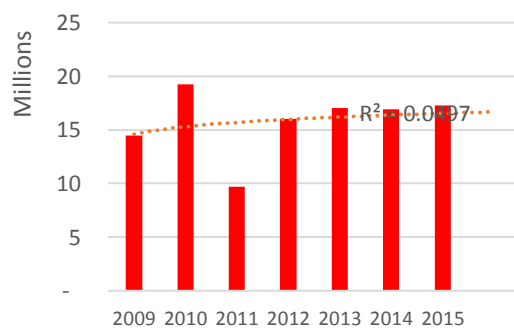
### Transport & Storage



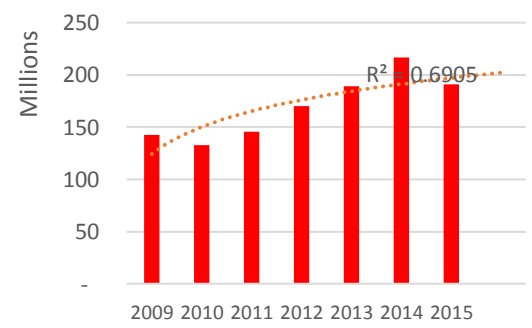
### Communication



### Finance & Insurance



### Business



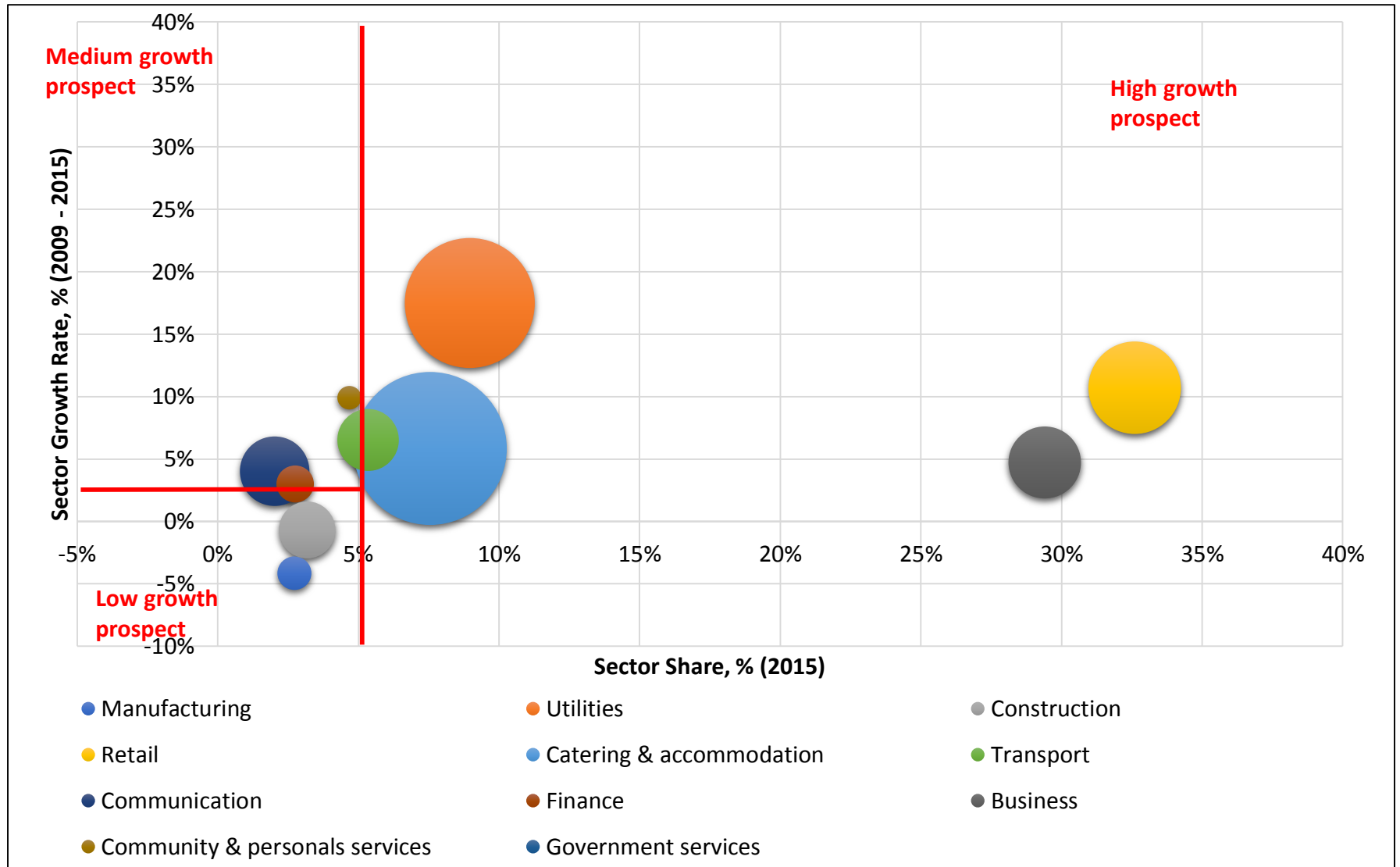
# Expenditure on Activities

<b>Activity</b>	<b>Sector or sub-sector</b>
Publishing, course material, printing	Manufacturing
Water, electricity	Utilities
Building work, carpeting, electrical	Construction
Food, books, refreshments	Retail trade
Entertainment, accommodation	Catering and accommodation
Travel	Transport and storage
Postage, telephone, courier	Communication
Legal, consultation, software	Business Services
Insurance, bank cost	Finance & insurance
Gardening, laundry	Community and personal services
Property tax, staff development (excluding personnel remuneration)	General government

# What to expect next?

- Potential for growth given historical trends?
- Growth prospects =  $f(S_s, S_g, LQ)$  where:
  - Where  $S_s$  is the sector' share of total campus expenditure,  $S_g$  is sector growth over the past seven years and  $LQ$  is the location quotient, an indication of the concentration of the sector compared to the local economy.
- Low, medium and high growth probability:

# Growth prospects of these sectors?



Source: NWU & Authors calculations, 2017

# Thank you

[david.dyason@nwu.ac.za](mailto:david.dyason@nwu.ac.za)

NWU - School of Economics