

Skills challenge in South Africa's financial sector

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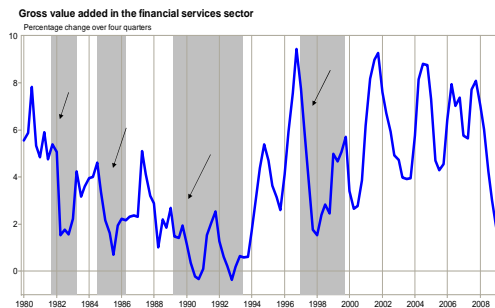
1. Introduction

- In South Africa the population size in 2008 was 48 733 000.
- The working age population(15-65) consisted of 30 801 000 people, of which 13 655 000 was employed, 4 122 000 unemployed and 13 024 000 not economically active.
- Of the total employed in South Africa, 7 621 000 are male and 6 034 000 are female.
- Of the employed, 9 459 000(70,1%) are African, 1 541 000(11,3%) are Coloured; 2 063 000(15,1%) are white and 483 000(3,5%) are Indian.

2. Overview of the South African Financial services sector

- Contribute around 22% to GDP in 2008 (15,7% in 1980's).
- Globally play a key role in innovation for growth of other productive sectors.
- One of the most competitive sectors in the world.
- Contribute around 12 per cent to total employment (1 634 000).
- Competitiveness is both an advantage and a challenge
 - most global skills,
 - challenge is to retain these within the country.
- Globally and domestically the largest penetration of professionals with graduate and post-graduate skills

2. Overview of the South African Financial services sector...cont



3. Data and Methodology

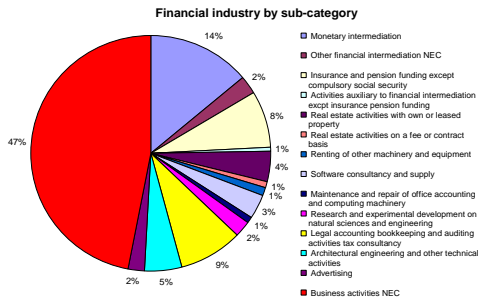
- Data
 - Statistics South Africa 2008Q3 QLFS
 - QLFS renovation of and replace LFS
 - Current shortcomings: Income measure and accurate industry classification
 - DoE Higher Education Management and Information System (HEMIS)
 - Stata
- Methodology
 - Identify Financial related jobs using Industry (SIC code) and Occupations (SASCO) classifications
 - Disaggregated to three digits
 - Note: Financial sub-industry 47% in Business n.e.c

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September LFS 2007
Domain Admin, 2008/06/05

4. Financial skills: Industry vs Occupation codes



4. Financial skills: Industry vs Occupation codes...cont

- Employment concentrated in at least 4 industrial sub-categories:
 - Business activities n.e.c (47%),
 - Monetary intermediation (14%),
 - Auditing activities (9%),
 - Insurance (8%).
- Disaggregating business n.e.c by education level:
- 70,5 per cent of people in business activities n.e.c had matric as their highest level of qualification.
- Only around 8 per cent had a graduate qualification.
- The aim was therefore to identify occupations that require financial skills

4. Financial skills: Industry vs Occupation codes...cont

- Kraak, 2003 identified occupations related to financial skills.
- Due to shortcomings in the industry classification a similar methodology was employed to identify those occupations which required financial skills.
- It was identified that financial skills were mostly matched to the following occupations:(no particular order)
 - IT or computer related occupations, accounting and auditing, banking and finance, insurance, legal occupations; and real estate

4. Financial skills: Industry vs Occupation codes...cont

- Financial occupations can be spread across industries:

4. Financial skills: Industry vs Occupation codes...cont

Financial occupations spread across by industry

Industry	Number of employed	Share of the total
Mining	10 087	0.83
Manufacturing	118 940	9.77
Electricity	11 346	0.93
Construction	20 379	1.67
Wholesale and retail	394 997	32.45
Transport	60 082	4.94
Financial	462 307	37.98
Community	129 975	10.68
Total	1 217 198	100

4. Financial skills: Industry vs Occupation codes...cont

- Financial related skills occupations were identified as:
 - Banking and finance (67,8 per cent)
 - Accounting and auditing (11,7 per cent)
 - Real estate (8,2 per cent)
 - Computer (5,3 per cent)
 - Legal (4,3 per cent)
 - Insurance (2,7 per cent).

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- P1** The legal sub-category form an integral part of the financial sector due to, among other things, increased regulation of the industry across the globe. Due to the nature of the financial industry computer related sub-occupations such as programmers were also identified as important skills needed in the South African financial sector.

P170585, 2009/08/28

5. Skill demand: Demographic characteristics

- Mostly females, apart from computer, insurance and real-estate occupations.
- African employees dominated followed by white.

5. Skill demand: Demographic characteristics

African			
Sub-category	Share of total population group	Male	Female
Computer	36.5	82.4	17.6
Accounting and auditing	46.3	33.1	66.9
Banking and finance	58.9	31.6	68.4
Insurance	53.2	68.3	31.7
Legal	32.9	62.5	37.5
Real estate	35.5	40.6	59.4
Total	52.9	36.1	63.9
White			
Computer	63.5	71.1	28.9
Accounting and auditing	53.7	28.4	71.6
Banking and finance	41.1	39.3	60.7
Insurance	46.8	61.3	38.7
Legal	67.1	38.0	62.0
Real estate	64.5	56.7	43.3
Total	47.1	42.6	57.4

5. Skill demand: Demographic characteristics

- **Banking and finance:**
 - Mostly African employees, followed by white.
 - Female employees also dominated both these population groups.
- **Computer related occupations:**
 - Dominated by white employees, of which most were male.
- **Accounting and auditing:**
 - Of the 142 000 employees 61 000 was white, and of these 43 000 was female, while 52 000 was african, of which 35 000 was female.

5. Skill demand: Demographic characteristics

- **The insurance sector:**
 - Predominantly white employees, of which nearly two thirds were male.
- **Legal and real-estate:**
 - Dominated by white employees
 - largest part of the employees were female, while the real-estate was dominated by male employees.

5. Skill demand: Demographic characteristics

Sub-occupation	Age categories						Total
	15-24	25-34	35-44	45-54	55-64	65+	
	%	%	%	%	%	%	Number
Computer	13.9	39.6	23.1	19.4	3.2	0.9	64 680
Accounting and auditing	9.7	44.5	22.8	18.2	4.7	0.2	142 718
Banking and finance	16	38.6	22.9	15.1	6.4	0.9	825 399
Insurance	9.9	31.3	26.2	18.8	10.9	2.9	32 666
Legal	13.5	34.2	17.6	15.4	14.3	5	52 375
Real estate	8.1	36.8	31.1	12.8	10.5	0.7	99 360
Total	14.2	38.8	23.4	15.6	6.8	1.0	1 217 198

5. Skill demand: Demographic characteristics

- Dominated by employees between the ages of 25 and 44 which were mostly females.
- The financial and banking sector seems to employ a lot of people younger than 24, of which most was males.
- Insurance, legal and real estate seems to employ a small share of people between 55 and 64 years.

5. Skill demand: Demographic characteristics

Sub-occupation	Education categories			Total
	Matric	More than matric	Graduates	
Computer	21 797	28 788	11 496	62 081
Accounting and auditing	57 493	30 247	45 022	132 762
Banking and finance	416 178	130 521	101 678	648 376
Insurance	16 306	7 998	6 142	30 445
Legal	11 728	5 257	32 998	49 983
Real estate	44 972	26 678	16 711	88 360
Total	568 473	229 489	214 045	1 012 008

5. Skill demand: Demographic characteristics

- Based on education, the financial sector mostly employed people with a matric education as their highest level of education. These were mostly employed in the financial and banking, as well as accounting and auditing sub-categories.

5. Skill demand: Aging skills in the financial sector

- We tried to determine how the age and education profile of those in financial related occupations looked:

5. Skill demand: Aging skills in the financial sector

Age by education	African	White	Total
Age 15-24			
Matric	67.4	32.6	100
More than matric	73.6	26.4	100
Graduates	13.2	86.8	100
Age 25-34			
Matric	67.9	32.1	100
More than matric	72.7	27.3	100
Graduates	59.7	40.3	100
Age 35-44			
Matric	42.4	57.6	100
More than matric	50.7	49.3	100
Graduates	28.6	71.4	100
Age 45-54			
Matric	27.1	72.9	100
More than matric	31.4	68.6	100
Graduates	18.6	81.4	100
Age 55-64			
Matric	9.0	91.0	100
More than matric	20.3	79.7	100
Graduates	9.5	90.5	100
Age 65+			
Matric	13.8	86.2	100
More than matric	16.8	83.2	100
Graduates	0	100	100

6. Skill supply: Secondary education

- Education important in career development.
- Good prior indicator of occupational and skill base.
- Data show worrying trend for SA's potential for quality skills supply.
- In 2003, 440 267 matriculants wrote national senior certificate exams.
 - Of those that wrote maths, 9,1 per cent passed on higher grade in 2003, however declining to 7,3 per cent in 2007.
- This number increased to 564 775 in 2008.

6. Skill supply: Secondary education

- DoE introduced outcomes based education.
- The first group wrote matric in 2008.
- Maths is no longer differentiated between higher and standard grade.
- Instead, those who passed by either 30 per cent or 40 per cent are reported.

6. Skill supply: Secondary education

- The share of matrics who wrote maths in the 2008 national senior certificate examinations, and who passed with 40 per cent or more was 29,7 per cent.
- This is not at all comparable to the previous examinations results.
- Of those who wrote science, about 28,3 per cent passed science with a result higher than 40 per cent.
- Of the total number of accounting pupils who wrote accounting, 31,1 per cent passed with a mark of 40 per cent or higher.

6. Skill supply: Secondary education

	Total number of matric candidates who wrote	Passed Maths on higher grade	Proportion that passed Maths on higher grade (as a share of those who wrote maths)
2007	564 775	25 415	7.3

- In 2008 554 664 candidates wrote matric

Subject	Passed with 30%+	Passed with 40%+	Proportion that passed 40% (as a share of those who wrote subject)
Maths	136 184	89 186	29.7
Science	119 206	61 480	28.3
Accounting	108 106	54 787	31.1

6. Skill supply: Tertiary education

- In 2006, 12 000 students (not just financial related studies) finished their undergraduate degree in business, commerce and management sciences. (own calculations)
- Predominantly in the field of:
 - accounting (47,7 per cent),
 - management (24,3 per cent).
 - This is followed by the 3 611 students who completed their law undergraduate degree.
- Most who completed a postgraduate/honours was also in the business, commerce and management science field. 60% of those were found in the accounting field.
- Masters and doctorate studies in the financial field also seem to be dominated by business, commerce and management sciences.
- However, within this field, 50 per cent of students completed their masters or doctorate in management.

6. Skill supply: Tertiary education...cont

Inter-gender group

2nd-order cesm* category	Under Graduate (3, 4 or more years)		Post graduate Diploma /certificate and Honours		Masters and Doctorate		Total of sample	
	Female	Male	Female	Male	Female	Male	Female	Male
Business, Commerce & Mgmt. Sc.	54.0	46.0	52.3	47.7	34.3	65.7	51.7	48.3
Computer Sc. And Data Proc.	34.8	65.3	30.3	69.7	25.7	74.3	33.3	66.7
Engineering and Eng. Tech.	21.4	78.6	22.0	78.0	13.8	86.2	20.2	79.8
Law	55.0	45.0	36.0	64.0	49.4	50.6	51.6	48.4
Mathematical Sciences	40.6	59.3	37.8	62.0	41.2	58.8	40.0	60.0
Economics	50.3	49.8	44.1	55.9	33.9	67.0	48.1	51.9
Total of financial fields	47.6	52.4	46.1	53.9	33.2	66.8	45.7	54.3
Total of all fields	58.2	41.8	60.9	39.1	45.5	54.5	57.5	42.5

6. Skill supply: Tertiary education...cont

Intra-gender group

2nd-order cesm* category	Under-graduate (3, 4 or more years)		Post graduate diploma/ certificate and honours		Masters and Doctorate		Total of sample	
	Female	Male	Female	Male	Female	Male	Female	Male
Business, Commerce & Mgmt. Sc.	60,4	46,7	75,1	58,5	51,7	49,2	62,8	49,5
Computer Sc. And Data Proc.	6,3	10,6	5,2	10,3	3,8	5,5	5,8	9,9
Engineering and Eng. Tech.	5,6	18,7	2,6	7,8	7,8	24,0	5,1	17,1
Law	17,5	13,0	7,2	11,0	28,1	14,3	16,1	12,7
Mathematical Sciences	4,1	5,4	5,2	7,3	5,7	4,0	4,4	5,6
Economics	6,2	5,6	4,7	5,1	3,1	3,0	5,6	5,1
Total of financial fields	100	100	100	100	100	100	100	100

6. Skill supply: Tertiary education...cont

- Females:
 - Undergraduates: african
 - Post graduate: white
 - Business, commerce and management, law and maths
 - Masters: white
- Males:
 - Undergraduates: african
 - Post graduate: white
 - Masters: both african and white

6. Skill Supply: Unemployment characteristics

- QLFS survey question on unemployment status:
 - lost their job, left their job, or were a re-entrant.
- Financial industry (SIC codes):
 - 123 000 people lost their jobs
 - 38 000 left their jobs; and
 - 144 000 were re-entrants.

6. Skill supply: Unemployment characteristics... cont

- However, to be consistent, respondent's previous occupations were used as a guide to isolate financial skills occupations:
 - 73 000 people lost their job,
 - 30 000 left their job; and
 - 123 000 were re-entrants.
- Most people that were job losers, job leavers as well as re-entrants were:
 - in the finance and banking category.
 - between 25 and 34 years old.

7. Determinants of financial sector employment and skills: model overview

- Two logistic regression models
 - 1. Dependent variable: dummy variable for employed in a financial skilled occupation.
 - 2. Dependent variable: dummy variable for highly skilled (=1) otherwise (=0)
- Control variables:
 - Gender(M/F)
 - Population group(A/C/I/W)
 - Industry(A/M/M/E/C/NW/T/F/C)
 - Provinces(WC/EC/NC/FS/KZN/NW/GP/MP/LP)
 - Age groups(15-24)/(35-44)/(45-54)/(55-64)/(65+)
 - Education groups(Matric/Higher/Grad)

	Employed in financial occupations =1		Highly skilled=1	
	Coefficient	Odds	Coefficient	Odds
cons	-3.845885*** (0.000)		-1.093271*** -0.153	
Female	0.6798415*** (0.000)	2.0	-0.6510268*** 0	0.52
Coloured	0.5641377*** (0.000)	1.8	-0.7510183** -0.013	0.47
Indian	0.7157305*** (0.000)	2.0	0.1057256 -0.714	1.11
White	0.6868498*** (0.000)	2.0	0.681004*** 0	1.98
Mining	1.004234*** (0.013)	2.7	0.0602939 -0.348	1.06
Manufacturing	1.109383*** (0.001)	3.0	-0.3628336 -0.627	0.70
Electricity, gas and water	1.196694*** (0.007)	3.3	1.82305* -0.053	6.19
Construction	0.6577126* (0.085)	1.9	-1.304195 -0.206	0.27
Wholesale and retail	1.741883*** (0.000)	5.7	-1.511828** -0.044	0.22
Transport	1.394274*** (0.000)	4.0	-0.3297457 -0.673	0.72
Finance	2.429137*** (0.000)	11.3	0.0975911 -0.893	1.10
Community	0.216278 (0.519)	1.2	0.2872891 -0.697	1.33

	Employed in financial occupations =1		Highly skilled=1	
	Coefficient	Odds	Coefficient	Odds
Eastern Cape	0.165249 -0.226	1.2	-0.3180138 -0.325	0.73
Northern Cape	-0.0231046 -0.885	1	-0.6741569 -0.122	0.51
Free State	0.0663178 -0.628	1.1	-0.8512249** -0.016	0.43
KwaZulu Natal	-0.010287 -0.933	1	-0.278317 -0.309	0.76
North West	0.189834 -0.26	1.2	-0.7441894* -0.07	0.48
Gauteng	0.3492801*** 0	1.4	-0.0895841 -0.654	0.91
Mpumalanga	-0.2079529 -0.176	0.8	-0.5077184 -0.185	0.6
Limpopo	0.0355953 -0.826	1	-0.4483756 -0.271	0.64
25-34	-0.1225765 -0.173	0.9	0.2495777 -0.303	1.28
35-44	-0.288338*** -0.003	0.7	0.1908912 -0.447	1.21
45-54	-0.2724951** -0.014	0.8	0.4586858* -0.088	1.58
55-64	-0.2926815** -0.049	0.7	0.4528276 -0.16	1.57
65+	-0.373903 -0.231	0.7	0.1648463 -0.785	1.18

7. Determinants of financial sector employment and skills: model fit

	Employed in financial occupations =1	Highly skilled=1		
Higher than matric	0.145206**	1.2		
	-0.046			
Graduate	0.6303328***	1.9		
	0.000			
Number of obs		10597		1636
LR chi2(27)		1250.92		264.8
Prob > chi2		0.000		0.000
Log likelihood		-3933.77		-677.589
Pseudo R2		0.1372		0.1635

7. Determinants of financial sector employment and skills: findings

- The odds that a female is employed in financial occupations are 97,4 per cent more than for a male.
- Females seem to be less likely to be highly skilled compared to males in financial occupations.
- Compared to african, coloured, indian and white population groups seems to be more likely to be employed in the financial industry.
- Coloured population however, is less likely to be highly skilled by 52,8 per cent, while for White population groups the odds are nearly 97,6 per cent more that they will be highly skilled in financial occupations.
- Across all the industries, except for community, social and personal services, the odds of being employed in the financial sector was higher, compared to the benchmark category.
- Electricity industry more likely to be highly skilled.

7. Determinants of financial sector employment and skills: findings...cont

- From the age of 35 to 64, the odds of being employed in financial occupations decrease.
- When skills are considered however, those between the ages of 45 and 54 were more likely to be highly skilled compared to the benchmark category.
- The odds increase significantly for those who had a higher than matric qualification and those who had a degree and higher, compared to those who only had matric as their highest level of education.

8. Conclusion

- This paper confirm that the supply side remains a constraint in financial sector employment in that secondary school output remains differentiated between different quality schools.
- QLFS data show that gender, population group and youth play an important role within the sector.
- From the preliminary logit output it is clear that females are more likely to be employed in the financial services sector, however, when analysing the skill level, females are more likely to be less highly skilled, compared to their male counterparts.
- This is in line with other sector skills studies that show that females and less advantaged individuals and groups are less likely to members of various professional bodies within the sector, i.e. SAICA and the ASSA.

8. Conclusion(cont..)

- Return of offshore foreign nationals – coaches and mentors to the young.
- Internal (firm) skills , identified, assessed to determine competency levels and potential to invest in.
- Gap – huge no. of matriculants probably without maths and /or literacy, i.e. security, clerical
- Upskilling above group difficult for firm and professional bodies so institutional intervention necessary.
- Way forward: Look further than at equity and score card measures. To look at the impact of these skills on macro economy and productivity.