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The Structure and Performance of the Saudi Business Enterprises

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Abstract. This study attempts to analyse the structure of Saudi Business enterprises and to assess their performances. The paper is divided into three sections. Section one examines the main economic features of the sample enterprises. Section two uses statistical analysis to test the performance of the enterprises while section three summarises the main findings.

Very little is known about the performance of business enterprises in Saudi Arabia. This is mainly due to lack of data and to an apparent preoccupation with macroeconomic issues at the expense of some important microeconomic issues.

The aim of this paper is to use data published recently in the *Arab News* in analysing the structure of Saudi business enterprises and assessing their performance.

Section I

The Arab News [1] published information about the volume of turnover, the value of assets, and the numbers employed in (what the paper called) "the big 100". A close investigation of these data suggest that the sample covers all business enterprises whose turnover exceeded 100 million Saudi Riyals(approximately 28 million US dollars) in 1985 [1,p.15]. The sample covers the whole population in some lines of activities (*e.g.* public utilities) and covers well over 80 percent of all enterprises in other cases. This suggests that the sample is quite representative. However, some of the enterprises were excluded from the analysis due to incomplete information (*e.g.* lack of data on employment).

Following the source of data, we classified the enterprises into six branches of activities viz:

(i) Finance
(ii) Trading
(iii) Contracting
(iv) Manufacturing
(v) Public utilities, transport and communication
(vi) Diversified

The published data indicate that the majority of Saudi enterprises were established after the oil prices hike in late 1973. This holds for approximately 82 percent of the banks; 60 percent of the trading enterprises; 73 percent of the contracting firms; 77 percent of the manufacturing enterprises; 83 percent of the utilities and 37 percent of the diversified enterprises. This clearly suggests that the oil boom had a great impact on expanding business enterprises in Saudi Arabia.

Table 1 gives some basic information about the main features of the enterprises.

The statistical results of Table 1 suggest that:

1. The enterprises engaged in public utilities have the highest average turnover and employment, while those engaged in finance have the highest average value of assets.

2. There seems to be a strong positive correlation between the mean value of assets and the mean value of employment but only a weak correlation between the mean value of turnover and that of assets and employment respectively. The rank correlation coefficients between these variables are respectively:

$$r'\bar{A}.\bar{N} = 0.914$$
$$r'\bar{Q}.\bar{A} = 0.572$$
$$r'\bar{Q}.\bar{N} = 0.600$$

(Where $\bar{Q}$ refers to the mean value of turnover, $\bar{A}$ the mean value of assets and $\bar{N}$ the mean value of employment).

3. The values of the coefficients of variation suggest that the volume of turnover varies most sharply amongst enterprises engaged in contracting while the value of assets varies most severley amongst enterprises engaged in manufacturing. On the other hand, the coefficients of variation suggest that variations in the numbers employed are highest in trading and lowest in contracting.

4. The high values of coefficients of variation suggests the existence of a high degree of heterogenity amongst the Saudi enterprises in the same (or similar) lines of activity. A detailed study of individual enterprises would reveal later on, that some of these enterprises are not fully utilising their productive capacity while others are over-crowded with employees.

Table 1. Some basic characteristics of the Saudi business enterprises

Activity		Finance	Trading	Contracting	Manufacturing	Utilities	Diversified
No. of enterprises		10	10	8	22	6	18
Turnover	Standard range Million SR.	4.651	576	8.040	2.055	7.284	2.897
	Standard mean Million SR.	1.317	380	1.229	399	1.727	725
	Standard deviation Million SR	1.406	201	2.800	451	2.831	824
	Coefficient of variation	1.067	0.528	2.277	1.128	1.639	1.136
Assets	Standard range Million SR.	52.720	1.050	7.370	21.445	19.584	2.440
	Standard mean Million SR.	15.485	315	1.230	1.651	9.102	586
	Standard deviation Million SR.	16.477	300	2.538	4.507	7.568	603
	Coefficent of variation	1.064	0.953	2.062	2.729	0.831	1.029
Employment	Standard range Million SR.	5.746	3.700	5.800	7.867	23916	5.764
	Standard mean Million SR.	2.169	679	2.864	1.049	8.202	1.501
	Standard deviation Million SR	1.889	1.076	2.027	1.609	8.584	1.384
	Coefficient of variation	0.871	1.586	0.708	1.534	1.047	0.922

Table 2. Regression results for

Line of activity	a_0	a_1	b_0	b_1	c_0	c_1	c_2	R^2	F
Finance									
(i)	–197.6	0.698						0.881	59.0
	(–0.773)	(7.682)							
(ii)			3.143	0.085				0.989	720.8
			(0.045)	(26.8)					
(iii)					–2.072	0.161	0.847	0.985	229.6
					(–4.964)	(2.310)	(8.320)		
Trading									
(i)	309.6	0.103						0.310	3.585
	(4.09)	(1.893)							
(ii)			225.5	0.490				0.538	9.317
			(3.305)	(3.052)					
(iii)					2.952	0.303	0.853	0.752	10.599
					(4.158)	(1.902)	(4.087)		
Contracting									
(i)	–1966.3	1.116						0.653	11.3
	(–1.723)	(3.358)							
(ii)			–116.3	1.094				0.982	335.2
			(–0.728)	(18.3)					
(iii)					–1.051	0.541	0.523	0.789	9.364
					(–0.201)	(2.501)	(4.632)		
Manufacturing									
(i)	118.8	0.268						0.912	208.0
	(3.389)	(14.4)							
(ii)			247.9	0.092				0.843	107.4
			(5.948)	(10.3)					
(iii)					0.844	0.703	0.386	0.727	25.3
					(1.093)	(3.443)	(2.298)		
Utilities									
(i)	–917.6	0.323						0.956	87.7
	(–2.349)	(9.365)							
(ii)			356.3	0.151				0.162	0.775
			(0.182)	(0.880)					
(iii)					–530.2	0.360	–0.076	0.985	98.9
					(–1.714)	(12.8)	(–2.400)		
Diversified									
(i)	382.7	0.228						0.147	2.755
	(1.381)	(1.660)							
(ii)			408.1	0.541				0.157	2.979
			(1.569)	(1.726)					
(iii)					3.053	0.296	0.167	0.187	1.727
					(1.698)	(0.960)	(0.790)		

5. The degree of dispersion was most apparent in the enterprises engaged in manufacturing. Only in this line of activity, did the standard deviation exceed the mean value for each variable (*i.e.* turnover, assets and employment).

To test, if there is any correlation between the volume of turnover, the value of assets and the numbers employed in each line of activity, we estimated the following regressions:

$$\text{(i)} \quad Q = a_0 + a_1 N + w_1$$
$$\text{(ii)} \quad Q = b_0 + b_1 A + w_2$$
$$\text{(iii)} \quad \ln Q = c_0 + c_1 \ln N + c_2 \ln A + w_3$$

where:

Q = Volume of turnover
N = Numbers employed
A = Value of assets
w_1, w_2, w_3 = errors of regression.

The third regression represents a unitary elasticity of substitution function of the Cobb-Douglas type. However, we should realise that we are not measuring a typical production relationship where output is taken as a function of factor inputs. Also, we should realise that we are measuring in most cases relationships for firms dealing in hetrogeneous products or services. Thus we can not, strictly speaking, estimate a production function, but only a relationship between the value of turnover and the value of assets and numbers employed [2,p.15]. We should keep these facts in mind when interpreting the regression results. Table 2 gives the results for each line of activity. The figures in brackets refer to the estimated "t" statistics for the estimated regression coefficients.

The regression results of Table 2 suggest that:

1. There is a strong positive correlation between the value of turnover and the numbers employed in the Saudi enterprises engaged in all lines of activities with the exception of trading and diversified activities. In these two lines, enterprises with the highest values of turnover are not necessarily those with highest employment.

2. There is a strong positive correlation between the volume of turnover and the value of assets in the Saudi business enterprises with the exception of those engaged in utilities and diversified activities.

3. The econometric regression results testing the relationship between turnover and assets and employment (in a form of a Cobb-Douglas function) suggest that:

(i) The elasticity of turnover with respect to employment is quite low in all lines of activities with the exception of manufacturing and contracting.

(ii) The volume of turnover has a very high elasticity with respect to the value of assets in the business enterprises engaged in finance and trading.

(iii) The turnover of Saudi business enterprises engaged in finance, trading, contracting and manufacturing would seem to be subject to increasing returns to scale with respect to assets and employment. The values of $(c_1 + c_2)$ exceed one in each of these lines of activities.

(iv) The elasticity of turnover with respect to assets in the business enterprises engaged in utilities is negative.

(v) There is no significant correlation between the value of turnover and the value of assets and numbers employed in enterprises engaged in diversfied activities. This is expected given the high degree of heterogeneity in these industries [3, p. 122].

Section II

To assess the economic performance of the sample enterprises, we calculated for each one of them:

(i) The value of turnover per employee (Q/N).
(ii) The value of turnover per each Riyal of assets (Q/A).
(iii) The asset/labour ratio (A/N).

The first coefficient (Q/N) represents an index of average labour productivity while the second coefficient (Q/A) represents an index of Capital productivity. The asset/labour ratio (A/N) represents the degree of capital intensity.

Table 3 gives the above coefficients for each enterprise in each line of activity. The table also gives, for each coefficient, the range, the mean (X); the standard diviation (S.D) and the coefficient of variation (C.V).

The statistical results of Table 3 suggest that:

1. Business enterprises engaged in trading have the highest turnover per employee while those engaged in public utilities have the lowest turnover per employee.
2. The banks have the lowest turnover per asset while enterprises engaged in contracting and diversified activities have the highest turnover per asset.
3. The highest asset/labour ratio exists in the enterprises engaged in finance, while the lowest asset/labour ratio exists in the enterprises engaged in contracting. This may be explained by the facts that the assets of the banks include the accounts of the depositors and the contracting industry depends relatively more on labour for its activities.

4. The Saudi enterprises in most activities would seem to be using different capital/labour ratios. Thus two firms with similar turnover per employee could be using quite different asset/employment ratios. This may be explained to a great extent by the high degree of heterogenity and the existence of excess capacity.

5. The value of turnover per employee, turnover per assets and the value of assets per employee is much closer in the enterprises engaged in finance than in the other enterprises. This may be explained by the relatively higher degree of competition which exists amongst the banks.

6. The productivity of labour varies mostly amongst the enterprises engaged in trading and contracting; while the productivity of assets varies mostly amongst enterprises engaged in utilities. Also the asset/labour ratio varies mostly amongst firms engaged in contracting.

7. A detailed comparison of the average productivities (*i.e.* turnover per employee and turnover per asset) would indicate the existence of excess capacity in a number of Saudi business enterprises. It also suggests that some enterprises are over-crowded with employees. The cases of firms engaged in the production of cement and electricity are clear examples.

We tested if there is any relationship between the productivity of labour (measured by the value of turnover per employee); the productivity of capital (measured by the value of turnover per each Riyal of assets) and the capital/labour ratio or capital intensity (measured by the value of assets per employee). These tests were done using the two regressions:

$$Q/N = \alpha_0 + \alpha_1 (A/N) + u$$
$$Q/A = \beta_0 + \beta_1 (A/N) + v$$

Where Q, A, N are defined as before and u, v are the regression errors. The regression results are given in Table 3. The figures in brackets refer to the estimated "t" statistics. It is possible to derive the following conclusions from the results of Table 4:

1. There is a strong positive correlation between labour productivity and capital intensity in Saudi enterprises engaged in finance, trading and contracting.

2. There is no significant correlation between the productivity of labour and capital intensity in Saudi enterprises engaged in manufacturing, utilities and diversified activities. Firms with the largest assets per employees in these activities do not necessarily have the highest turnover per employee. This may suggest the existence of "excess capacity" [4, p. 234].

3. There is no correlation between the productivity of capital and the degree of capital intensity in Saudi enterprises engaged in finance, trading, contracting and public utilities. The enterprises with the highest asset/employment ratios are not those with the highest turnover/employment ratios.

4. There is a negative correlation between the productivity of capital and the asset/employment ratio in the business enterprises engaged in manufacturing and diversified activities. The enterprises with relatively higher asset/employment ratios have relatively lower turnover/asset ratios. This may suggest that capital is not optimally utilised in these enterprises.

Table 3. Some basic indicators of the performance of Saudi business enterprises

(1) Finance

Name of enterprise	Turnover per employee (Q/N) (Thousand S.R)	Turnover per asset (Q/A) (S. Riyals)	Assets per employee (A/N) (Million S.R)
National Commercial Bank	786	0.088	8.9
Riyadh Bank	500	0.074	6.8
Saudi American Bank	879	0.089	9.9
Al Bank Al Saudi Al Fransi	631	0.088	7.2
Arab National Bank	340	0.810	4.2
Saudi-Cairo Bank	496	0.098	5.1
United Saudi Commercial Bank	512	0.076	6.8
Saudi British Bank	278	0.116	2.4
Bank Al Jazira	492	0.082	6.0
Saudi Holland Bank	1.008	0.085	11.8
Range	730	0.042	9.400
$\bar{X}$	592	0.088	6.910
S.D	233	0.012	2.763
C.V	394	0.138	0.400

Table 3.

(2) Trading

Enterprise	Q/N	Q/A	N/A
Modern Electronics Est.	1.555	1.609	0.967
General Trading Co.,	1.038	1.996	0.520
Ali A. Tamimi, Commercial Div.	2.817	2.105	1.338
Abdul Ghani Al Ajou Co.,	563	1.017	0.554
Al-Hussaini & co.,	6.600	3.000	2.750
Samir Photographics Supply	833	3.000	0.278
Hamad A. Alessa & Sons	857	1.000	0.857
Tamimi & Fouad	994	0.615	0.297
Al-Mutlaq Furniture	315	1.078	0.293
Saudi Investment Trans & Trading Co.	625	1.004	0.622
Range	6.285	2.385	2.472
$\bar{X}$	1.620	1.642	0.848
S.D	1.885	0.857	0·749
C.V	1.164	0.522	0.884

Table 3.

(3) Contracting

Enterprise	Q/N	Q/A	A/N
Hyundai Engineering	1.198	1.100	1.090
Almabani Group	102	0.382	0.268
Fast Contracting Co.,	215	0.638	0.337
Consolidated Contractors Co.,	76	3.801	0.020
Rabya Landscaping	105	2.938	0.036
Saudi A. Trading & Const.	94	2.787	0.034
Saudi Electro Mech. Co.,	126	3.150	0.040
Develop. Int'l Trade Co.,	50	0.455	0.110
Range	1.148	3.419	1.079
$\bar{X}$	246	1.906	0.242
S.D	388	1.397	0·363
C.V	1.578	0.733	1.500

Table 3.

(4) Manufacturing

Enterprise	Q/N	Q/A	A/N
Saudi Iron & Steel Co.	538	0.288	1.905
Saudi Fruit Juice & Beverage Industries	692	1.071	0.646
Manufacturing & Building Co.,	470	0.947	0.496
Saudi Fisheries Co.,	241	0.545	0.453
Saudi Cable Co.,	571	0.420	0.776
Saudi Basic Industries Corp. (SABIC)	271	0.101	2.692
Saudi Bahrain Cement Co.,	386	0.241	1.604
Southern Province Cement	362	0.296	1.226
Saudi Kuwait Co.,	195	0.099	1.967
Saudi Cement Co.,	262	0.289	0.905
Arabian Cement Co.,	244	0.133	1.835
Al Jubail Fertilizer	812	0.388	2.094
Petromin Lubricating Oil	729	0.982	0.743
Arabian Motors & Eng.	364	1.176	0.309
Saudi Ind. Projects Co.,	355	1.495	0.237
Aluminum Products Co.,	357	0.694	0.514
Mohamed Assad Aldress & Sons	314	0.563	0.557
Banawi Trading & Ind. Group	454	2.083	0.218
Saudi Veget. Oil & Ghee (SAVOL).	738	1.853	0.398
Saudi Steel Pipe & Co.,	641	1.183	0.542
Continental Con of Saudi A.	866	0.935	0.925
Al-Qahtani Pipe Coating Terminal	380	0.960	0.396
Range	671	1.984	2.474
$\bar{X}$	466	0.761	0.974
S.D	202	0.562	0·716
C.V	0.433	0.738	0.735

Table 3.

(5) Public utilities, transport and communication

Enterprise	Q/N	Q/A	A/N
SCECO West	149	0.066	2.240
SCECO East	129	0.073	1.770
SCECO South	36	0.021	1.725
Saudi Arabian Telecom. Co.,	379	1.121	0.338
Saudi Public Transport Co.,	64	0.150	0.430
Saudi Arabian Airlines Corp.	300	0.564	1.878
Range	343	1.100	1.902
$\bar{X}$	176	0.332	1.396
S.D	135	0.435	0·805
C.V	0.769	1.307	0.577

Table 3.

(6) Diversified

Enterprise	Q/N	Q/A	A/N
United Abdul Latif Jamail Co.,	2.000	3.000	0.667
Saudi Real Estate Co.,	187	0.197	0.947
Olaya Saudi holding	475	0.958	0.496
Trading & Ind. Group	349	1.129	0.309
Rolaco Trading & Contract.	643	1.500	0.429
Hail Agric. Develop. Co.	743	0.746	0.996
Haji Husein Alireza	921	1.534	0.600
Abdulah Fouad & Sons	107	0.425	0.252
Attar Travel Co.,	516	11.941	0.043
Hoshanco	110	0.948	0.116
Alhamrani Group of Companies	1.000	6.667	0.150
Saudi Int. Investment	633	0.613	1.033
Al Babtain Trading Ind.	86	0.317	0.271
General Arabian Med.	240	1.202	0.199
Muhammad Bin Ladin Org.	323	0.792	0.408
Saudi Research & Marketing	206	10.600	0.019
Arabian Houses Co.,	226	0.183	1.236
Oriental Com. & Sh. Co.	495	11.910	0.415
Range	1.914	11.758	1.217
$\bar{X}$	514	2.441	0.477
S.D	462	3.545	0·366
C.V	0.898	1.452	0.766

Table 4. Regression results

Line of activity	Dependent variable	α_0	α_1	β_0	β_1	R^2	F
Finance							
	Q/N	21.7	82.6			0.954	166.9
		(0.460)	(12.9)				
	Q/A			0.101	–0.002	0.183	1.793
				(9.730)	(–1.339)		
Trading							
	Q/N	–441.3	2.432			0.934	113.9
		(–1.750)	(10.7)				
				1.120	0.617	0.291	3.279
	Q/A			(2.972)	(1.811)		
Contracting							
	Q/N	–3.235	1.029			0.928	77.5
		(–0.066)	(8.801)				
	Q/A			2.358	–1.865	0.235	1.841
				(4.114)	(–1.357)		
Manufacturing							
	Q/N	499.9	–35.0			0.015	0.314
		(6.670)	(0.560)				
	Q/A			1.332	–0.586	0.557	25.1
				(9.505)	(5.014)		
Utilities							
	Q/N	233.5	–41.1			0.060	0.254
		(1.815)	(–0.504)				
	Q/A			0.750	–0.299	0.308	1.778
				(2.118)	(1.333)		
Diversified							
	Q/N	396.2	247.9			0.039	0.640
		(2.149)	(0.800)				
	Q/A			4.899	–5.154	0.283	6.300
				(4.012)	(–2.510)		

Conclusions

This paper attempts to analyse available data on Saudi business enterprises. Despite the data limitations, it was possible to reach some important conclusions which can be summed up in what follows:

1. There is a strong positive correlation between the value of turnover, the numbers employed and the value of assets in Saudi enterprises engaged in most lines of activities.

2. The elasticity of turnover with respect to employment is quite low in Saudi enterprises with the exception of those engaged in manufacturing and contracting.

3. The turnover of Saudi enterprises engaged in most activities would seem to be subject to increasing returns to scale with respect to employment and assets.

4. The productivity of labour varies mostly amongst enterprises engaged in trading and contracting while the productivity of assets varies mostly amongst enterprises engaged in utilities. Also, the asset/labour ratio varies mostly amongst firms engaged in contracting.

5. There is a positive strong correlation between labour productivity and capital intensity in Saudi enterprises engaged in finance, trading and contracting.

6. There is no correlation between the productivity of capital and the degree of capital intensity in Saudi enterprises engaged in finance, trading, contracting and public utilities.

7. There is a negative correlation between the productivity of capital and the degree of capital intensity in the business enterprises engaged in manufacturing.

8. Some Saudi enterprises are over-crowded with employees.

9. There is some evidence of "excess capacity" in some Saudi business enterprises.

10. Capital does not seem to be optimally utilised in some Saudi business enterprises.

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هيكل وأداء مشروعات الأعمال السعودية

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ملخص البحث . تحاول هذه الدراسة تحليل هيكل مشروعات الأعمال السعودية وتعميم درجة أداء هذه المشروعات. وينقسم البحث إلى ثلاثة أجزاء حيث يلخص الجزء الأول أهم خصائص العينة. ويستخدم الجزء الثاني الأسلوب الإحصائي في اختبار درجة أداء المشروعات المختلفة، بينما يلخص الجزء الثالث أهم نتائج البحث.