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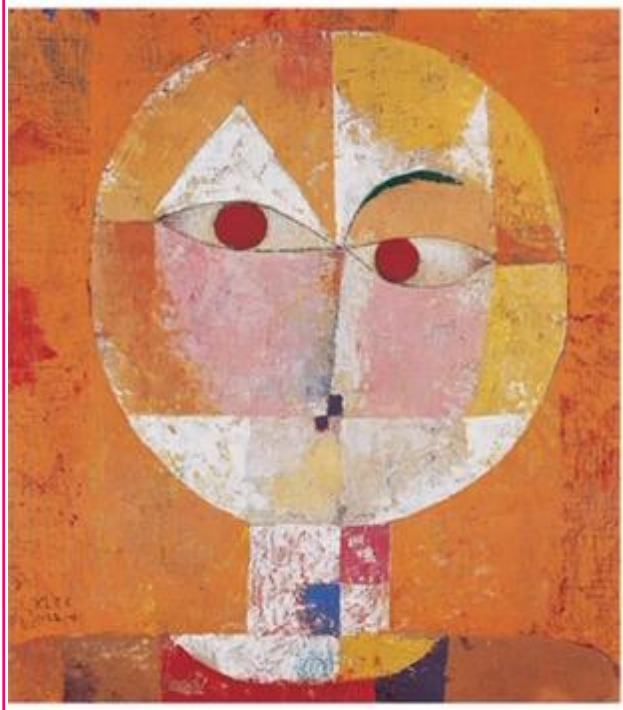

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The financial sustainability of publicly-traded state-owned enterprises in an emerging market

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Abstract

This paper discusses the financial sustainability of 19 publicly traded enterprises with more than 5% state ownership and listed on Oman's Muscat Securities Market. To examine the enterprises' financial sustainability, simulations using key financial ratios were performed, which revealed that at least four manufacturing firms and two banks will likely face financial instability and may become financially unsustainable. In conclusion, we also recommend conducting scenario analysis using likely macroeconomic scenarios and their impact on the financial stability of predominantly state-owned publicly traded listed companies.

Keywords: Financial, Sustainability, Publicly, Enterprises, Simulation.

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La sostenibilidad financiera de las empresas públicas que cotizan en bolsa en un mercado emergente

Resumen

Este documento analiza la sostenibilidad financiera de 19 empresas que cotizan en bolsa con más del 5% de propiedad estatal y que cotizan en el mercado de valores de Muscat de Omán. Para examinar la sostenibilidad financiera de las empresas, se realizaron simulaciones utilizando ratios financieros clave, que revelaron que al menos cuatro empresas manufactureras y dos bancos probablemente enfrentarán inestabilidad financiera y pueden volverse financieramente insostenibles. En conclusión, también recomendamos realizar un análisis de escenarios utilizando probables escenarios macroeconómicos y su impacto en la estabilidad financiera de las empresas que cotizan en bolsa, predominantemente estatales.

Palabras clave: financiera, sostenibilidad, público, empresas, simulación.

1. INTRODUCTION

Recent shifts in Oman's economic situation have generated financial uncertainty as well as financial instability in the country's private sector. As a result, it has become clear that the private sector's over-reliance on government funding has been a risky strategy whose effects can be reversed only by diversifying funding sources and seeking alternative ones. Although many third-sector

organizations depend upon government funding as their principal source of financing (SAVITSKAYA, 2004), having multiple sources of income other than government revenues could support their financial sustainability (FROELICH, 1999; HELMIG, JEGERS & LAPSLEY, 2004). Because state-owned enterprises are expected to remain an influential global force in the years to come, it is pivotal to ensure that they deliver on the state's investments in terms of desired sustainable social outcomes (DOHERTY & MURRAY, 2007).

The chief objective of the study reported here was to characterize the current and expected financial sustainability of publicly-traded companies on the Muscat Securities Market 30 (MSM30) Index with more than 5% state ownership. Four companies on the MSM30 Index that did not meet the requirement of 5% ownership were excluded from the sample, as were seven in the Islamic banking, insurance, and investment sector, whose less than 5 years of available data made forecasting somewhat futile (KINDE, 2012).

As a result, the sample included 19 publicly traded, state-owned enterprises, including six commercial banks and 13 manufacturing and service companies: the Public Authority for Social Insurance, the Civil Service Employees Pension Fund, the State General Reserve Fund, the Ministry of Defense Pension Fund, the Royal Office Pension Fund, the National Equity Fund, Royal

Court Affairs, the Oman Investment Fund, the Royal Guard of Oman Pension Fund, then United International Telecommunication Investment and Projects Company, the Royal Oman Police Pension Fund, Oman Food Investment Holding, the Diwan of Royal Court Employee Pension Fund, the Oman Chamber of Commerce and Industry, Oman Liquefied Natural Gas, and the Petroleum Development Oman Pension Fund (ADONGO & STORK, 2005; THAPA, 2006: Ajalli & Mozaffari, 2018).

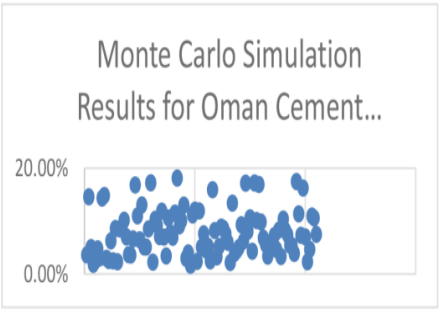
The results of simulations involving key ratios representing those companies can be used to determine the current and future success or failure of publicly-traded state-owned enterprises in Oman. In the remainder of this paper, Section 2 briefly reviews literature addressing financial sustainability, especially in state-owned enterprises. Section 3 describes the data and method, after which Section 4 presents the findings. Last, Section 5 concludes the paper by briefly considering what the findings imply (CRITTENDEN, 2000).

2. DATA AND METHOD

In the study reported here, financial sustainability was examined with reference to forecasts related to key financial ratios that can be used to investigate four critical facets of any listed

company: profitability, liquidity, long-term solvency, and asset management efficiency (ACHARYA & ACHARYA, 2006).

A unique feature of the study was the method used to examine financial sustainability. Whereas most scholars have investigated the past behavior of financial ratios to identify whether a listed company will remain financially sustainable, the study reported here involved an entirely different, two-part approach. First, a trend forecast of the balance sheet and income statement was estimated based on past trends in revenue growth, costs, margins, working capital requirements, and asset turnover efficiency. The initial capital structure of the firm changed throughout the 5-year forecast period depending on growth in equity due to retained earnings, and any remaining shortfall in terms of capital requirements was funded by borrowing (STRUTHERS, 2004). Because the cost of borrowing and ability of the firm to service debt are critical requirements for financial sustainability, a high level of debt and low-interest coverage ratio indicate that the firm may become insolvent. The focus of financial statement forecasting was estimating those ratios and how they will likely behave in the next 5 years.



Max.	18.095%
Min.	1.807%
Mean	7.774%
Standard deviation	4.266%

The second part of the approach entailed Monte Carlo simulations, in which critical input variables (i.e., drivers) such as annual revenue growth and cost of goods sold as a ratio of sales revenue were allowed to randomly vary by 20% above or below the past trend. In each simulation, all balance sheet and income statement figures were recalculated, and the ratios, including return on equity and return on assets (ROA), were estimated. The results of the simulations are reported herein using scatter graphs similar to the one shown above, which depicts values for return on equity obtained from the simulations on the y-axis. Each data point in the graph represents the result of one simulation. Annex A shows the results of 100 simulations for one company (i.e., Oman Cement Company). Means, standard deviations, and maximum and minimum values obtained for each ratio during simulations are reported in the following section (AVEH, 2013: Bendahmane et al, 2019).

3. RESULTS

Tables 1 to 4 list the results of simulations for the 19 predominantly state-owned publicly listed companies analyzed in the study. In particular, Table 1 reports the results for return on equity as an indicator of profitability, whereas Table 2 reports the results for ROA as an indicator of asset management efficiency. Results for current ratio, as a well-accepted proxy for liquidity, appear in Table 3, whereas results for times interest earned (TIE) or the interest coverage ratio, an excellent indicator of long-term solvency, appear in Table 4. For the banks, the ratio of annual loan loss provisions to total loans served as a proxy for credit quality, and the ratio of capital to total assets was used to indicate long-term solvency; Tables 5 and 6 report the results of simulations for those two ratios.

Table 1: Return on Equity (%) from Simulations

	Mean	Standard deviation	Maximum	Minimum
Oman Cement Company	7.7	3.9	18.8	2.6
Al Anwar Ceramic	9.5	7.1	29.7	2.3
SembaCorp	12.2	4.4	22.8	6.8
Oman Cable	3.7	22.3	31.9	-14.8
Oman Fisheries	20.8	80.7	657.1	-99.7
Raysut Cement	6.1	3.2	14.9	2.2
Al Jazeera Steel	-2.9	58.3	188.1	-197.2
Ooreedoo	16.9	8.1	32.5	6.3
Omantel	13.3	6.2	28.3	3.8

Phoenix Power	7.9	4.4	18.5	2.3
Al Jazeera Services	2.4	1.3	5.1	0.7
Al Anwar Holdings	30.8	8.1	43.5	20.1
Al Sharquiya	0.56	0.32	1.48	0.11
Bank Muscat	13.9	10.6	32.2	-5.5
HSBC Oman	8.8	5.1	18.9	-2.4
Bank Dhofar	12.8	21.5	48.3	-50.1
Bank Sohar	9.7	20.3	27.6	-101.4
National Bank of Oman	16.0	14.5	42.9	-22.8
Ahli Bank	4.6	30.4	29.1	-170.8

Table 2: Return on Assets (%) from Simulations

	Mean	Standard deviation	Maximum	Minimum
Oman Cement Company	6.1	1.4	8.6	3.5
Al Anwar Ceramic	6.6	2.7	12.9	3.0
SembaCorp	3.9	0.9	5.7	2.4
Oman Cable	6.8	14.1	33.1	-8.9
Oman Fisheries	17.9	27.7	72.0	-16.1
Raysut Cement	6.1	2.3	11.8	3.3
Al Jazeera Steel	6.2	11.2	23.8	-14.1
Ooreedoo	11.6	2.1	15.5	7.6
Omantel	6.5	2.8	13.9	2.0
Phoenix Power	1.9	0.62	3.0	0.68
Al Jazeera Services	2.9	1.6	6.2	0.9
Al Anwar Holdings	74.5	23.3	118.6	23.3
Al Sharquiya	0.58	0.31	1.5	0.30

Bank Muscat	2.04	1.2	3.5	-1.7
HSBC Oman	1.34	0.7	2.4	-0.34
Bank Dhofar	1.7	1.6	3.6	-3.1
Bank Sohar	1.9	1.7	3.9	-2.7
National Bank of Oman	1.6	1.7	3.7	-3.4
Ahli Bank	1.2	1.9	3.9	-3.1

Results shown in Table 1 indicate how the return on equity, as an excellent indicator of profitability, is likely to behave when sales or revenue growth, costs, margins, or other drivers vary randomly by 20% above or below the trend level. The mean value of return on equity was positive for 18 of the 19 listed companies. Only Al Jazeera Steel emerged from simulations with a negative average return on equity; that and the fact that 34% of the simulations run for the company showed negative returns on equity imply a strong probability of its financial instability should its sales growth and other drivers show negative trends. Meanwhile, three manufacturing companies and all six banks showed negative minimum values for return on equity. In particular, Bank Muscat and HSBC Oman showed negative returns on equity in less than 5% of the simulations, whereas Bank Sohar and Ahli Bank had negative returns on equity in more than 20% of the simulations, which implies the probability of financial instability that could precipitate financial unsustainability. By contrast, companies

such as Al Anwar Holding, SembaCorp, and Ooredoo were relatively strong, as indicated by their means, standard deviations, and minimum values, and can likely withstand vagaries in the macroeconomic environment (NYAMSOGORO, 2010).

Table 2 shows the results for simulations concerning ROA, an excellent indicator of the efficiency of asset management. Mean ROA values of the results for all 19 companies were positive, which suggests that asset management at the companies is efficient under normal circumstances. Nine companies showed minimum ROA values, all negative, and four of them showed negative ROA values in more than 20% of the simulations. For those companies, improvements in the efficiency of asset management could considerably help to ward off financial unsustainability.

Liquidity is another factor that can lead to sustainability-related problems for companies, especially manufacturing and service companies. Indeed, companies that are profitable and efficient can easily become bankrupt due to a lack of liquidity. The current ratio was used as an indicator of liquidity, and current ratios less than 1.0 indicated that a firm could likely experience problems with liquidity in the future. Table 3 shows the results of simulations for current ratios; note that current ratios are reported only for manufacturing and service companies, for they are not meaningful

measures for banks. Four of the 13 manufacturing and service companies showed mean values less than 1.0. The current ratio for Omantel was especially low, despite the company's excellence in terms of profitability.

Table 3: Current Ratios from Simulations

	Mean	Standard deviation	Maximum	Minimum
Oman Cement Company	2.8	0.15	3.1	2.5
Al Anwar Ceramic	7.7	1.2	10.5	5.9
Sembacorp	1.6	0.7	1.7	1.4
Oman Cable	3.2	0.3	4.0	2.7
Oman Fisheries	2.7	0.7	4.5	1.9
Raysut Cement	2.8	0.3	3.7	2.4
Al Jazeera Steel	2.1	0.1	2.4	1.9
Ooreedoo	0.73	0.06	0.86	0.6
Omantel	0.28	0.018	0.33	0.27
Phoenix Power	0.62	0.02	0.66	0.59
Al Jazeera Services	4.1	1.3	7.6	2.7
Al Anwar Holdings	0.41	0.011	0.43	0.38
Al Sharquiya	2.6	0.6	3.5	1.5

Table 4: Times Interest Earned Ratios from Simulations

	Mean	Standard deviation	Maximum	Minimum
Oman Cement Company	45.8	34.8	109.1	7.9
Al Anwar Ceramic	No debt	n.a.	n.a.	n.a.
Sembacorp	2.1	0.4	3.4	1.6
Oman Cable	33.7	43.5	132.1	-4.3
Oman Fisheries	63.2	58.7	216.6	-11.8
Raysut Cement	79.5	19.5	119.6	46.4
Al Jazeera Steel	9.5	9.8	32.8	-0.9
Ooreedoo	53.4	31.1	108.3	22.3
Omantel	18.2	4.2	25.1	10.8
Phoenix Power	2.4	0.4	3.4	1.9
Al Jazeera Services	31.6	4.2	41.2	27.7
Al Anwar Holdings	21.	2.4	25.7	11.2
Al Sharquiya	15.0	2.6	21.3	11.1

Long-term solvency is perhaps the critical factor of financial sustainability. For manufacturing and service companies, long-term solvency is measured using the TIE ratio, also called the interest coverage ratio, which is measured as a ratio of earnings before interest and taxes to interest expenses on borrowing. A TIE ratio of less than 3.0 implies that the company will likely face problems with solvency in the future. Table 4 shows the results of simulations regarding TIE ratios. The mean values for SembaCorp and Phoenix

Power were less than 3.0, and the same three companies with negative minimum TIE values also had negative TIE values in more than 20% of the simulations. There is a strong possibility that those companies will become financially unsustainable if market or macroeconomic conditions deteriorate.

Table 5: Capital to Total Assets (%) from Simulations

	Mean	Standard deviation	Maximum	Minimum
Bank Muscat	18.1	8.2	45.8	8.2
HSBC Oman	18.4	8.1	46.8	8.6
Bank Dhofar	10.5	4.4	24.5	5.4
Bank Sohar	15.6	5.7	34.2	2.6
National Bank of Oman	14.1	6.6	41.1	6.1
Ahli Bank	13.9	5.8	32.1	1.7

Table 6: Loan Loss Provisions to Total Loans (%) from Simulations

	Mean	Standard deviation	Maximum	Minimum
Bank Muscat	0.86	0.10	1.02	0.69
HSBC Oman	0.39	0.05	0.48	0.32
Bank Dhofar	0.54	0.06	0.64	0.43
Bank Sohar	0.38	0.04	0.45	0.31
National Bank of Oman	0.95	0.11	1.14	0.76
Ahli Bank	0.39	0.05	0.47	0.31

The ratio of capital to total assets, or ratio of equity to total assets, was used in simulations to examine the long-term solvency of commercial banks. Table 5 reports the means, standard deviations, and maximum and minimum values obtained from simulations. All the banks emerged with excellent capital-to-assets ratios in terms of mean values. Only for two banks—Bank Sohar and Ahli Bank—were the minimum values less than 3.0, which is a matter of some concern. Because both banks also had low mean ROA values, they could likely face problems with financial sustainability in the near future.

Last, credit quality is exceptionally important for banks. The ratio of loan loss provisions to total loans was used in simulations, the results of which appear in Table 6. All banks had considerably low loan loss provisions, with mean values less than 1%, which indicates an average of less than 1% of loan loss provisions. Moreover, the maximum values never exceeded 1.14%, which signifies excellent credit quality.

4. CONCLUSION

This paper provides a critical assessment of aspects of the financial sustainability of 19 publicly traded state-owned enterprises on Oman's MSM30 Index. Forecasting financial

statements for the next 5 years was performed with reference to past trends in Monte Carlo simulations assuming that key drivers (e.g., revenue growth, costs, and margins) could vary randomly by 20% above or below the trend level. The approach was unique and unprecedented for studying financial sustainability. Among the results, at least four manufacturing firms and two banks on the MSM30 Index face the probability of financial instability and may become financially unsustainable.

Although the study was restricted to the MSM30 index, it seems possible that the findings could be more general. On the basis of our preliminary analysis, we recommend that researchers in the future seek to use sensitivity analysis to examine which variables are primarily responsible for financial unsustainability. We also recommend conducting scenario analysis using likely macroeconomic scenarios and their impact on the financial stability of predominantly state-owned publicly traded listed companies.

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