Is Democracy Profitable? a Study on Sovereign Wealth Funds

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Keywords: Sovereignwealth Funds, Swfs, Government Intervention, Economic Freedom

Abstract: Sovereign Wealth Funds (Swfs) Are Investment Portfolios Owned and Managed by Governments. However, It is Broadly Believed That Government Intervention Can Increase Risk and Worsen Moral Hazard Problems in the Finance Sector. This Paper Presents an Empirical Study on the Relation between the Level of Government Intervention (Proxied by Democracy and Economic Freedom) and the Rate of Return on Assets of Swfs for 17 States and Regions, and the Results Indicate That There is a Negative Correlation.

1. Introduction

Swfs Are Investment Portfolios Owned and Managed by Governments. According to Swfi[1], There Are Currently 63 Swfs with Assets of over One Billion Us\$ Around the Globe, Fourteen of Which Are Based in Asia.

Recent Years Have Seen a Growing Body of Research on Swfs. Although Swf Itself is Not a New Phenomenon and Originated from Energy Export Revenue Surplus [2], One of the Unique and Very Essential Features of This Type of Fund Has Triggered Our Interest. on the One Hand, as Summarised by Hryckiewicz[3], It Has Been Well Documented That Government Intervention Can Lead to Increased Risk and Moral Hazard Problems in the Finance Sector. on the Other Hand, the Very Existence of Swf Can Be Seen as a Product of Government Intervention. Moreover, as Observed by Rozanov [4], Most Rapidly Growing Swfs Are Now from Asian Countries under Heavy Government Intervention, with the Usage of Foreign Reserves and Central Bank Reserves. out of the Top Ten Swfs in the World, the Only Three That Are from Non-Energy Exporters Are All Asian Funds[5]. Therefore, the Question Rises Whether Government Intervention Has Any Influence on the Efficiency of Swf Operation? If Yes, in Which Direction? If No, Why?

We Are Interested in How Swfs under Strong Government Intervention Are Being Operated, and Attempt to Find out Whether a More Centralised Operating Approach is Desirable or Not. This Paper Presents an Empirical Study on How Government Intervention Affects the Operational Efficiency of Swfs. Section 2 Introduces the Dataset and Model, Section 3 Discusses the Empirical Results, and Section 4 Concludes the Paper.

2. Data and Model Selection

2.1 Data

To Analyse the Operation of Swfs, the Dependent Variable That We Chose is Their Return on Assets Ratio (*Swfroa*), Calculated as the Percentage of Net Profit to a Two-Year Average of Total Assets. to Avoid Heterogeneity to Some Certain Degree, We Mainly Look At the Members of the International Forum of Sovereign Wealth Funds (Ifswf) Founded on Santiago Principles. However, as We Can See Later, Many Ifswf Members Do Not Provide Detailed Data for Public Access, Some Do Not Disclose At All. for Those That Do Not Include Financial Statements in Their Annual Reports, We Use the Closest Data That is Available as the Proxy, Often Growth Rate or Annualised Rate of Return. in Total, We Gathered Data from 19 Funds of 18 States and Regions, from 2000 through 2018, Including Palestine Investment Fund (Dropped Since Palestine is Not Included by Any Other Country-Level Datasets) and Two Funds from Kazakhstan (Jsc National Investment Corporation and Jsc Samruk-Kazyna, the Latter is Used for Availability of Data Since We Can Only Analyse One Fund Per Country).

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For the Proxy for the Level of Government Intervention (Independent Variable), We Chose *Polity2* (Revised Combined Polity Score) from Polity Iv Project[6], with Values Ranging from -10 (Strongly Autocratic) to +10 (Strongly Democratic). to Capture Government Intervention in the Economy Specifically, Index of Economic Freedom (Ief)[7] and Economic Freedom of the World (Efw)[8] Are Considered as Control Variables, However Ief Does Not Provide Raw Data Prior to 2013, So We Use Efw (*Efw*, Higher Score Indicates Higher Economic Freedom). Besides, Gdp Growth Rate (*Gdpgrowth*), Current Account Balance (*Ca_Per*) and Tax Revenue (*Taxrev*) as a Percentage of Gdp, and Population Growth Rate (*Popgrowth*) from World Data Bank[9] Are Also Included in the Grande Model. Table 1 Shows the Descriptive Statistics of Our Dataset.

Table 1 Descriptive statistics

Statistic	Ν	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
swfRoa	180	5.694	8.334	-19.215	1.644	5.204	9.200	60.358
polity2	177	3.316	7.255	-8.000	-6.000	7.000	10.000	10.000
EFW	159	7.336	0.863	5.000	6.610	7.400	8.090	8.750
ca_per	140	5.012	13.968	-29.828	-3.580	1.705	14.703	46.039
taxRev	114	14.804	6.583	0.043	10.584	13.603	20.482	29.488
gdpGrowth	180	3.676	5.492	-25.907	1.664	3.096	5.324	34.466
popGrowth	168	1.538	1.541	-0.174	0.755	1.343	1.786	13.910

The Augmented Dickey-Fuller Test Statistics for *Swfroe* is p = 0.01 < 0.05, Therefore No Unit Root is Present

2.2 Model

The Least Squares Dummy Variable (Lsdv) Regression Model is Given by

$$R_{it} = \sum_{j=2}^{18} \mu_j D_{ij} + \beta x_{it} + u_{it}$$

Where R_{it} is the *i*-th SWF's Roa Rate on Year *t*, D_{ij} Denotes the Dummy Variables for Country *j*, and x_{it} Denotes the Independent Variable (*Polity2* from Polity Iv). Table 2 Shows the Regression Results for Pooled Ols (without Country Factor) and Two Lsdv Models.

Comparing Pooled and Panel 2, on one hand, whereas *polity2* shows significance in Pooled, this is gone when controlling for difference across countries. Moreover, although *EFW*, *gdpGrowth* and *popGrowth* show no significance in both models, the coefficient of *EFW* becomes negative once controlled for countries. On the other hand, notice that *taxRev* shows no significance in the pooled model, but becomes highly significant when controlling for country factors, and its magnitude increased by a large amount too. Comparing Panel 1 and Panel 2, we can see that none of the countries has significant coefficients in both models, and the coefficients for the variables do not change much.

When checking robustness using HC3 as suggested by Long & Ervin[10], the p-values of both *ca_per* and *taxRev* become slightly over 0.1, which makes them insignificant.

3. Interpretations

From the results, we can see that both the level of democracy and Economic Freedom are negatively correlated with the ROA ratios. This result disagrees with the popular view that government intervention increases risk, however insignificantly. One possible cause of this is measurement error. Although we took every measure to acquire the data, it is a well-established theory that democracy is correlated with higher informational transparency[11]. Therefore, the less democratic some country is, the higher the probability that they may want to hide or distort the actual return data. However, notice that the Economic Freedom index is collected and calculated by an independent institution, so the negative correlation between Economic Freedom and ROA is less probable to be caused by measurement error. Nonetheless, if we assume that measurement error is not severe anywhere, the straightforward conclusion would be that democracy and the freedom of

economics are negatively correlated with the return rate of SWFs, especially when controlling for the countries.

	Dependent variable:				
	swfRoa				
	Pooled	Panel 1	Panel 2		
	(1)	(2)	(3)		
polity2	-0.408^{**}	-0.824	-0.897		
	(0.100)	(1.455)	(1.470)		
EFW	1.388	-4.505	-4.681		
	(1.071)	(4.475)	(4.524)		
ca_per	-0.184^{**}	-0.527^{***}	-0.519^{***}		
	(0.073)	(0.143)	(0.145)		
taxRev	0.272	1.650***	1.662***		
	(0.192)	(0.573)	(0.579)		
	0.015		0.071		
gdpGrowth	(0.015)		(0.170)		
	(01110)		(0110)		
popGrowth	-1.187		-0.863		
	(1.004)		(1.550)		
factor(country)Angola		-3.433	0.484		
		(23.727)	(24.917)		
factor(country)Australia		13 342	16 833		
netor (country) reastrand		(39.604)	(40.341)		
factor(country)Azerbaijan		(29.874)	(30, 340)		
		(20.014)	(00.040)		
factor(country)China		19.870	21.359		
		(29.437)	(29.787)		
factor(country)Italy		5.035	7.062		
		(37.505)	(37.979)		
factor(country)Kazakhstan		7 814	10.020		
never (country) running our		(32.087)	(32.618)		
		10.051	01 505		
factor(country)Malaysia		(32.745)	(33,398)		
		(02.1.10)	(661666)		
factor(country)Rwanda		20.648	24.411		
		(32.456)	(33.339)		
factor(country)Singapore		30.697	33.838		
		(39.077)	(39.791)		
factor(country)Timor-Leste		17.531	20.208		
lactor (country) Timor Lette		(33.619)	(34.245)		
		7.610	0.000		
factor(country) frinidad Tobago		(35.620)	9.632		
		(00.020)	(001000)		
factor(country)USA		32.326	35.272		
		(39.291)	(39.895)		
Constant	-4.657				
	(9.018)				
	104	104	104		
R ²	0.118	0.556	0,558		
Adjusted R ²	0.064	0.475	0.465		
Residual Std. Error	8.145 (df = 97)	7.364 (df = 88)	7.428 (df = 86)		
r Statistic	2.173° (df = 6; 97)	0.874 (dI = 16; 88)	0.031 (dI = 18; 86)		
Note:		*p<	0.1: **p<0.05: ***p<0.01		

Table 2 Regression results

The positive correlation between ROA and tax revenue is no surprise, but the negative correlation between ROA and current account balance seems to be not in line with Aizenman and Glick's findings[12] that current account surplus is positively correlated to an establishment of SWFs. However, although there is a correlation between the fund source of SWF and current account surplus, as Steigum [13]pointed out "the alternative to SWFs would have been higher low-

account surplus, as Stelgum [13]pointed out the alternative to SWFs would have been higher lowinterest official currency reserves", the relation between the amount of fund and the return rate of SWFs remains unclear, and is beyond the scope of this study. Still, a possible hypothesis is that with a larger amount of fund, SWF managers may tend to invest in less risky portfolios, which result in lower returns. Franzen[14] has studied a similar issue for pension funds, but there is no such study on SWFs to the best of our knowledge.

The effect of GDP growth is close to zero, and the effect of population growth is highly

insignificant, so we did not include them in the refined model[15-17].

4. Conclusion

In this paper, we have collected data on Sovereign Wealth Funds (SWFs), and conducted an empirical study on the relation between the level of government intervention (proxied by democracy and economic freedom) and the rate of return on assets of SWFs around the globe. Despite the popular theory that government intervention leads to higher risk and moral hazard problems, our data shows that the level of democracy and economic freedom in the observed countries and regions are negatively correlated with the return on assets of their SWFs. Various implications can be drawn from this conclusion, for example, it may be profitable for governments to become actively involved in the management process of SWFs; more supervision and regulation may increase the return of SWFs. The results of our study may also be inaccurate due to measurement error and the limited sample size. Nonetheless, more detailed analysis, as well as country-specific case studies are needed to investigate the reason behind our results, in order to provide policy suggestions and so on.

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