2022 GSR SCOREBOARD

"Governance, Sustainability and Resilience progress by State-Owned Investors"

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1. Executive Summary

We are delighted to present our **2022 GSR Scoreboard**, the most comprehensive analysis yet on the governance, sustainability and resilience practices by State-Owned Investors around the world.

The GSR Scoreboard was first introduced by the **Global SWF** team in 2020 as an assessment tool for the best practices of certain institutional investors, including sovereign wealth funds and public pension funds. We believe that important aspects such as transparency and accountability, responsible investing, and legitimacy and long-term survival are not mutually exclusive and must be considered jointly.

The scoring is based on 25 different elements: 10 related to governance, 10 to sustainability, and five to resilience. These questions, which have not changed since 2020, are answered binarily (Yes/No) with equal weight based on publicly-available information only, and then converted into % points. The system is rigorous, quantitative, and fully independent, as the funds in question do not pay any membership fee to be assessed.

The 2022 edition introduces three main changes:

- We have doubled our coverage from the world's Top 100 State-Owned Investors (70 SWFs / 30 PPFs) to the **world's Top 200 SOIs** (100 SWFs / 100 PPFs), generating a total of 5,000 datapoints for this analysis.
- For public pension funds, we now take into consideration the funding flows and status of the main depositor, e.g., for Dutch fund **APG**, we would look at **ABP** to answer questions relative to the funding scheme.
- All the assessed funds have been informed of their preliminary scores with at least a month of notice, so that they can study them and point us to any information missing, or to complement them with public links.

These changes have had a positive impact on the overall results: the sample now benefits from having more PPFs, which normally present higher scores; we have been able to answer questions around funding which we could not before; and several funds have been able to improve their results. The last point is especially important, as it highlights the benefits of having such independent and quantifiable system in place.

The results of the 2022 study, therefore, would look overly optimistic if compared to 2021. Even if we only consider the SOIs rated last year and undertake a "like-for-like" analysis, we observe a considerable improvement: sovereign wealth funds have improved 6%, and public pension funds, 5%.

Table 1. Like for Like Analysis 2022-2021

	G (10)	S (10)	R (5)	GSR (25)	GSR (%)
2022 Scores SWFs	6.5	4.8	2.2	13.5	54%
diff 2021	+0.7	+0.6	+0.2	+1.5	+6%
2022 Scores PPFs	8.7	8.3	3.7	20.8	83%
diff 2021	+0.2	+0.9	+0.2	+1.3	+5%
2022 Scores SOIs	7.3	5.9	2.7	15.8	63%
diff 2021	+0.6	+0.7	+0.2	+1.5	+6%

Source: GSR Scoreboard 2021, 2022

"State-Owned Investors are increasingly focused on enhancing their ESG frameworks and capabilities"

This year we did not have a single winner but eight: four SWFs and four PPFs. The largest is Canada's **CPP Investments**, which failed to score full marks due to just one point relating to its structure. We spoke with the fund's CIO about best practices. See our chat in pag.17-18.

NZ Super and **ISIF** are great ambassadors for New Zealand and Ireland, respectively, and ensure a strong score at country-level. The former has one of the most robust governance standards among SWFs, and the latter was designed with a resilient and thorough fiscal rule.

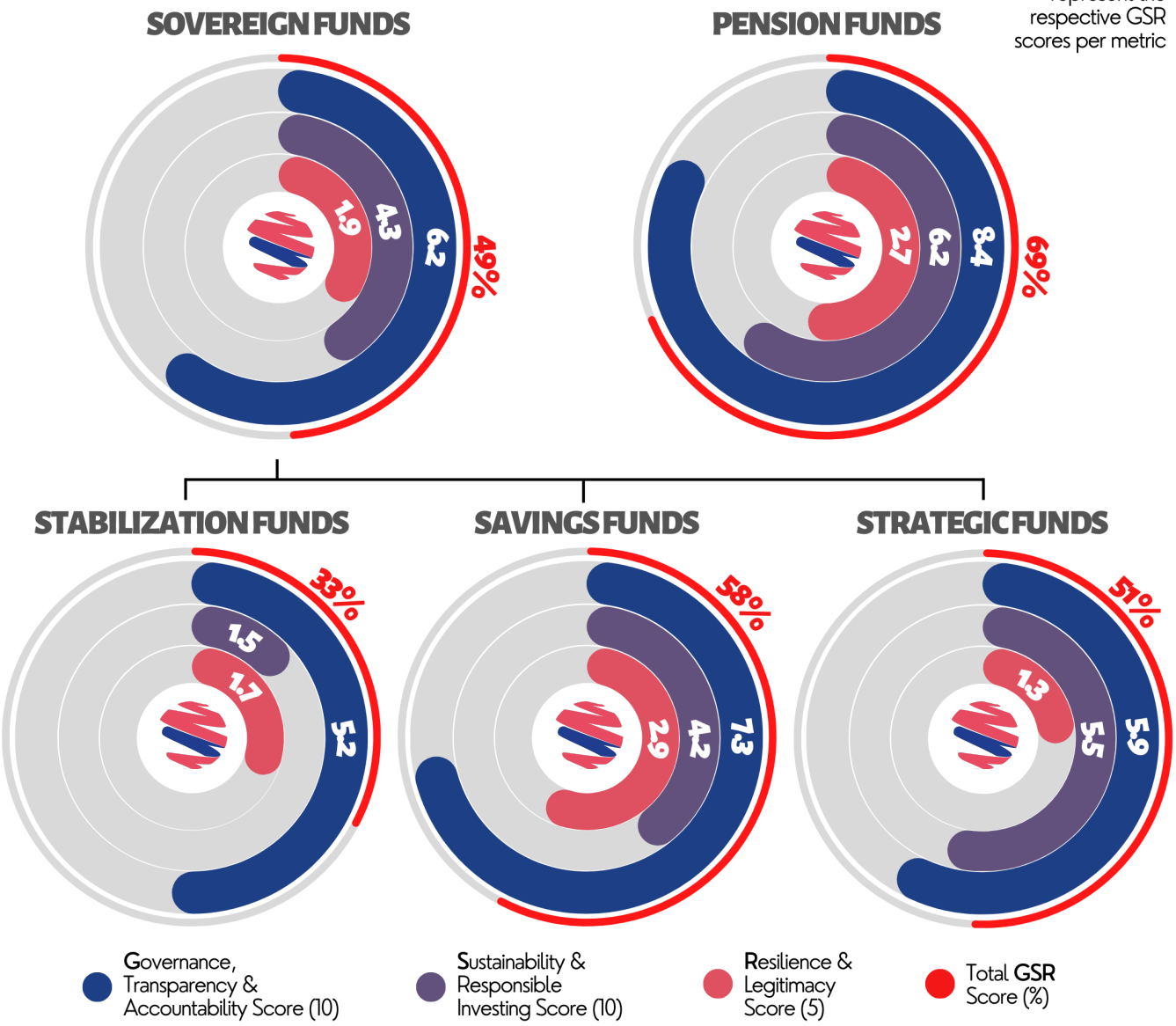
Two regions saw several improvements: the GCC, led by Qatar's **QIA**, Abu Dhabi's **Mubadala**, and Saudi's **PIF**; and Sub-Saharan Africa, led by Angola's **FSDEA**, Gabon's **FGIS** and Senegal's **FONSIS**. However, MENA remains the region with the worst score, 46%.

Table 2. 2022 Leaderboard

SOI	AuM $b	G	S	R	GSR %
CPP	432	9	10	5	96%
PGGM	332	9	10	5	96%
CDPQ	329	10	10	4	96%
Temasek	283	9	10	5	96%
FutFund	187	10	9	5	96%
BCI	158	9	10	5	96%
NZSF	39	10	9	5	96%
ISIF	16	9	10	5	96%

Source: GSR Scoreboard 2022
(blue ink, SWF, pink ink, PPF)

Figure 1: GSR Scoreboard per mission of fund



Pension funds continue to display better marks than sovereign funds across the board, especially when it comes to governance and sustainability. However, resilience is not their forte and there are many US retirement pools that have precarious funding status and drag down the "R" rating in the scorecard.

Among the 100 SWFs assessed, the 20 stabilization funds are usually very liquid pools of capital that need to respond to fiscal deficits, so sustainability is not normally too high on the agenda. On the flip side, the 50 strategic funds analyzed are generally well placed when it comes to sustainability issues given their role in their domestic economies but may present a weaker framework around legitimacy and liquidity risk.

Lastly, the 30 savings funds are a mixed breed and some incorporate stabilization and/or development elements, which makes the analysis more challenging. But some of them have also improved significantly since last year, including some of the largest Middle Eastern funds of similar name: ADIA, KIA, LIA, and QIA.

2. Market Update H1 2022

SOIs are operating in a very different environment than they were when we released our 2022 Annual Report. In the first six months of the year, public equities have crashed and the world's 13 largest indices are down on average **-14.1%**. After two years of bullish markets through a global pandemic, the bear market is finally here.

Worse still, other asset classes have fared just as bad, and investors have nowhere to hide. Bonds are down an astonishing **-13.8%**, and hedge funds are also in the red. Measuring private markets is always trickier as it depends on how often investors value their portfolios, but the related benchmarks are heavily affected, from **-1.7%** for infrastructure, to **-21.3%** for real estate, and **-29.8%** for private equities.

Table 3. Benchmark Returns per asset class

Class	Benchmark	FY17	FY18	FY19	FY20	FY21	1H22
Bonds	S&P 500 Bond	6.0%	-2.0%	13.6%	10.2%	-0.8%	-13.8%
Stocks	S&P Global 1200	20.8%	-10.5%	25.0%	13.1%	19.3%	-19.5%
Real Estate	S&P 500 RE	7.2%	-5.6%	24.9%	-5.2%	42.5%	-21.3%
Infrastructure	S&P Global Infra	15.6%	-13.2%	21.8%	-8.7%	8.4%	-1.7%
Private Equity	S&P Listed PE	19.8%	-17.2%	39.4%	0.6%	37.8%	-29.8%
Hedge Funds	EH HFI	9.1%	-3.0%	10.0%	13.2%	9.6%	-2.7%

Sources: Yahoo Finance, S&P's, Eurekahedge, Global SWF analysis

Table 4. Intl Markets

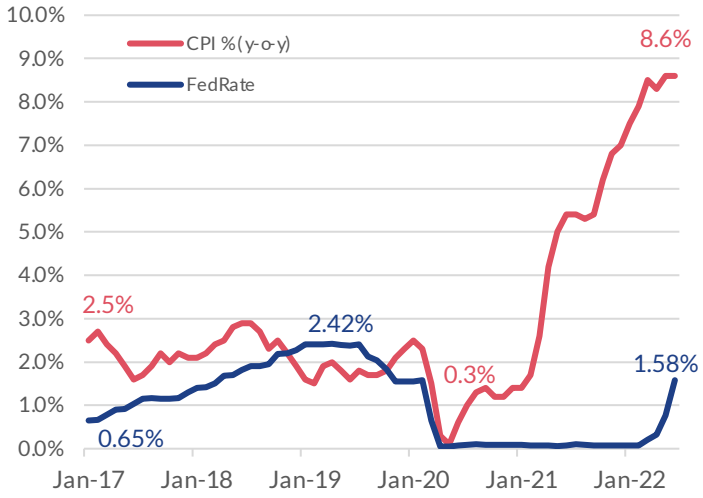
Index	1H22
NASDAQ 100	-28.6%
S&P 500	-19.9%
Hang Seng	-6.6%
FTSE 100	-2.9%
DJIA	-14.6%
DAX 30	-20.4%
Russell 2000	-23.4%
CAC 40	-18.0%
Eurostoxx 50	-20.6%
Bovespa	-5.0%
NIFTY 50	-9.1%
Shanghai	-6.6%
Nikkei 225	-8.3%
Average	***-14.1%***

The world's largest economy, the USA, saw a **-0.4%** contraction in the first quarter of 2022, and a second recession in two years is anticipated. In little more than two years, the US inflation rate has increased from 0.3% to 8.6% (its highest level since 1981), which is hurting consumers and investors alike.

On June 15, the Fed had no option but to raise interest rates by the largest amount since 1994. As if this was not enough punishment, Russian troops continue to attack Ukraine, well past 100 days of the invasion, and the commodity prices are soaring everywhere, amid limited oil production by OPEC states.

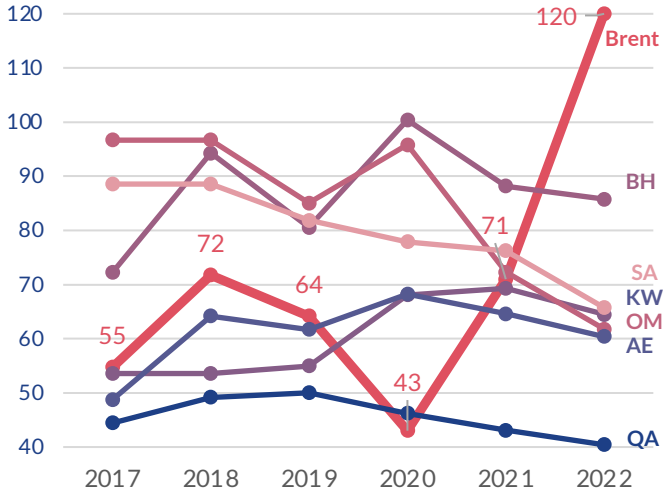
The current outlook presents an opportunity for oil-based SWFs. In the Gulf, all nations had fiscal breakeven points far higher than the average oil price in 2020 – and that meant that the rainy-day funds experienced very large withdrawals. The situation has now reversed, with most of the GCC budgets seeing a lower breakeven price, a soaring oil prices, and the prospect of a huge windfall expected by year-end.

Figure 2. US Inflation & Interest Rates



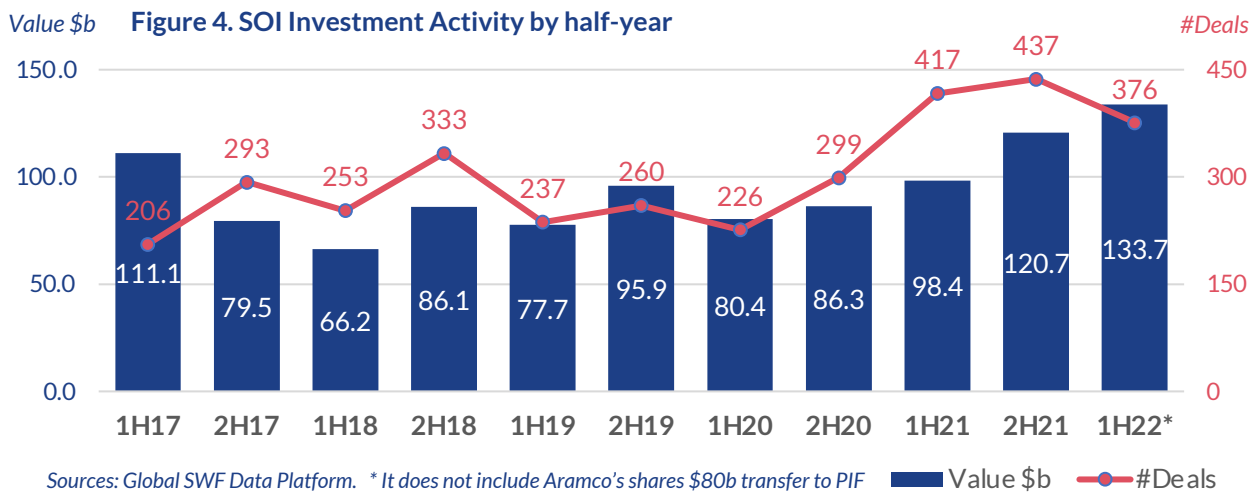
Sources: Federal Reserve, US BLI, Global SWF analysis

Figure 3. GCC fiscal breakeven vs oil price



Sources: Yahoo Finance, IMF, Global SWF analysis

In this context, we are observing a change in pattern of SOIs as they hedge against inflation. Venture Capital has given way to Infrastructure and Private Debt, which are thought to be good options right now. Consequently, deals have dropped in number but value has stayed the same with a higher average deal size.

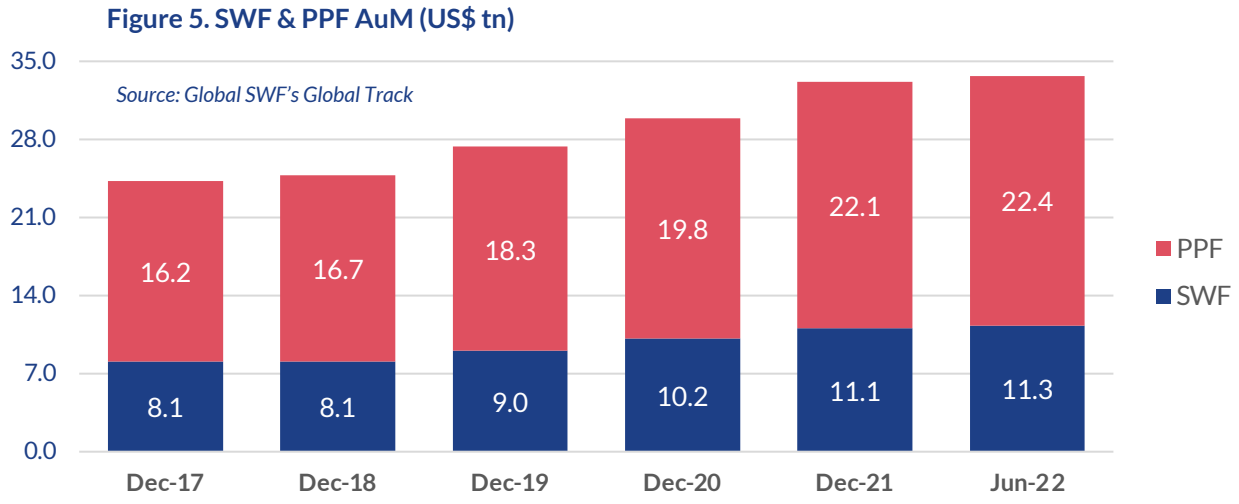


Transparent funds that publish results on a regular basis have shown us the severity of the situation. For 1Q22, **ATP** returned **-13%**, **CPP -2.9%**, **Future Fund -1.5%**, **NBIM -4.9%**, and **NZ Super -3.7%**. In the first few months of the year, **CalPERS** and **NYC Comptroller** have lost US$ 60 bn and US$ 22 bn, respectively.

Apart from investments and returns, there has been significant activity that is worth mentioning:

- **New Funds (4):** Ethiopia's **EIH**, Namibia's **Welwitschia**, Israel's **Citizen Fund**, and Victorian **Future Fund**
- **New Offices (4):** Saudi's **PIF** in New York, London and Hong Kong; and Singapore's **GIC** in Sydney
- **New CEOs (7):** **ADIC**, **AP3**, **ATP Groep**, **Bouwinvest**, **EIH**, **NIC Kazakhstan**, **QIC**.
- **New Clubs (2):** *EMENA SWF Foundation* (Malta, Egypt, France, Spain), *ASIF* (9 African SWFs led by **Ithmar**)

In summary, State-Owned Investors continue to be very sizeable and active, and will have to adapt to the new market environment to ensure well-governed, sustainable, and resilient growth.



3. GSR results by region & country

Figure 6. Top 15 Countries by SOIs ($b)

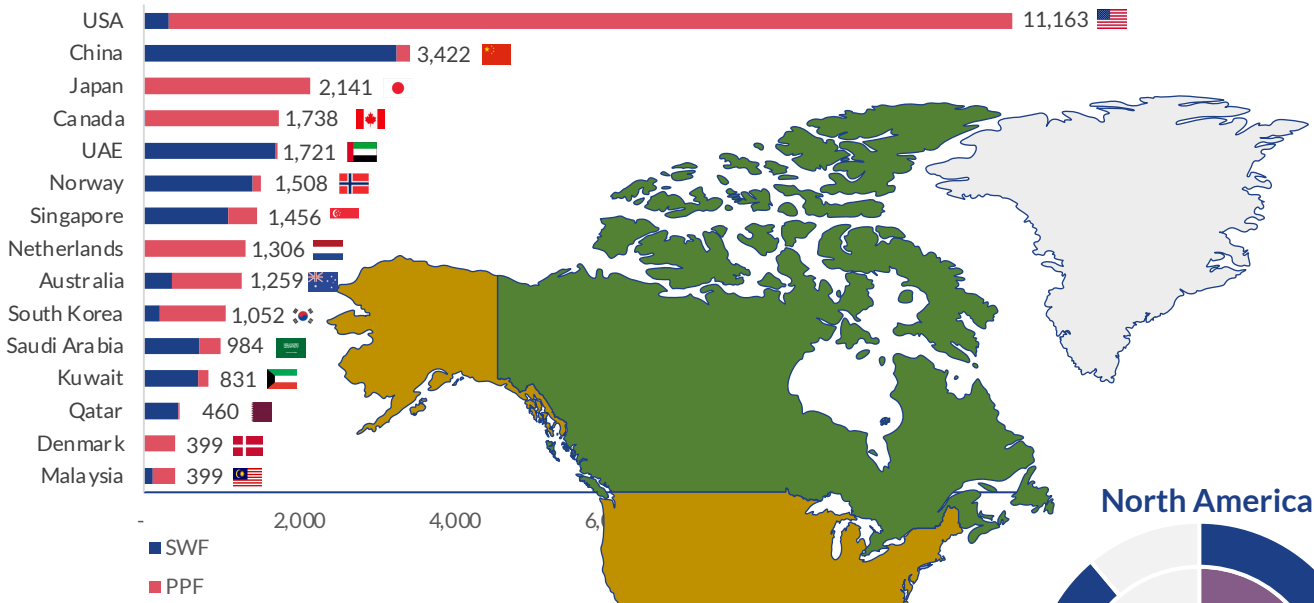
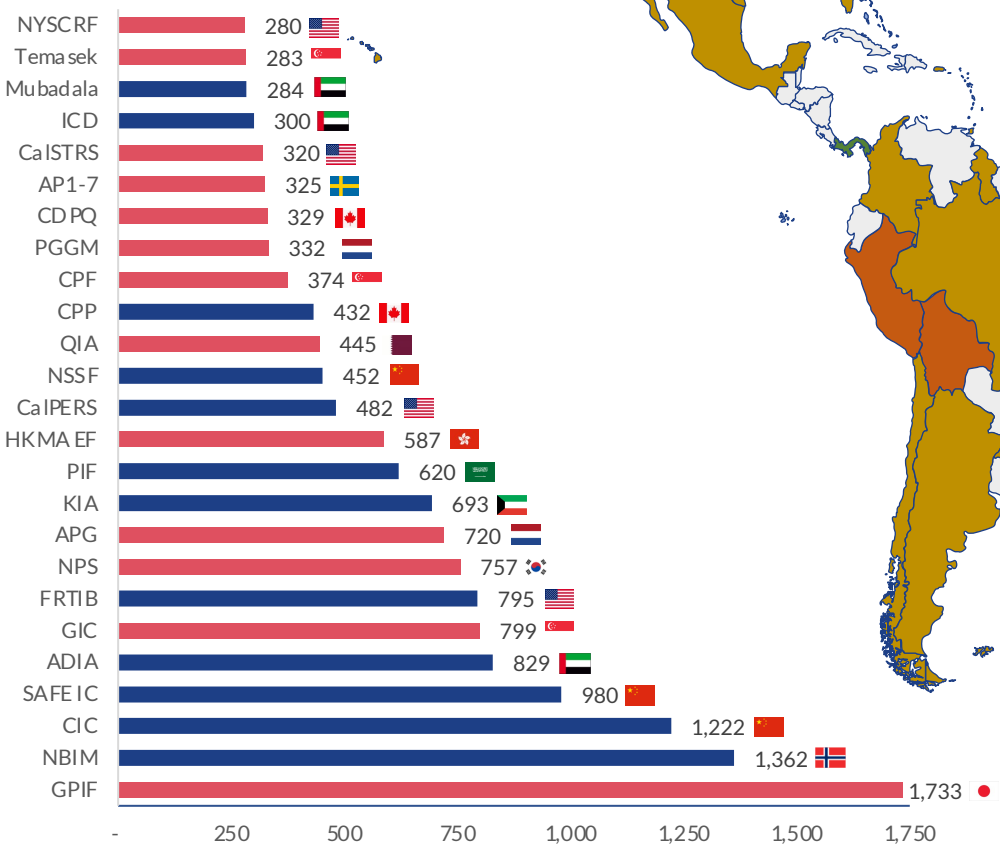
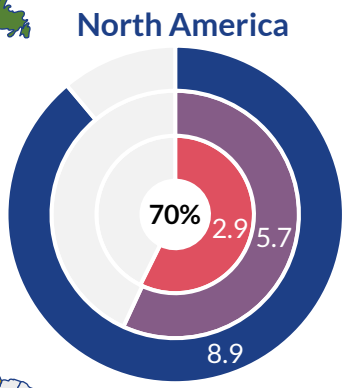
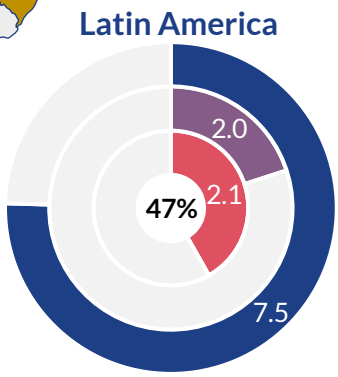


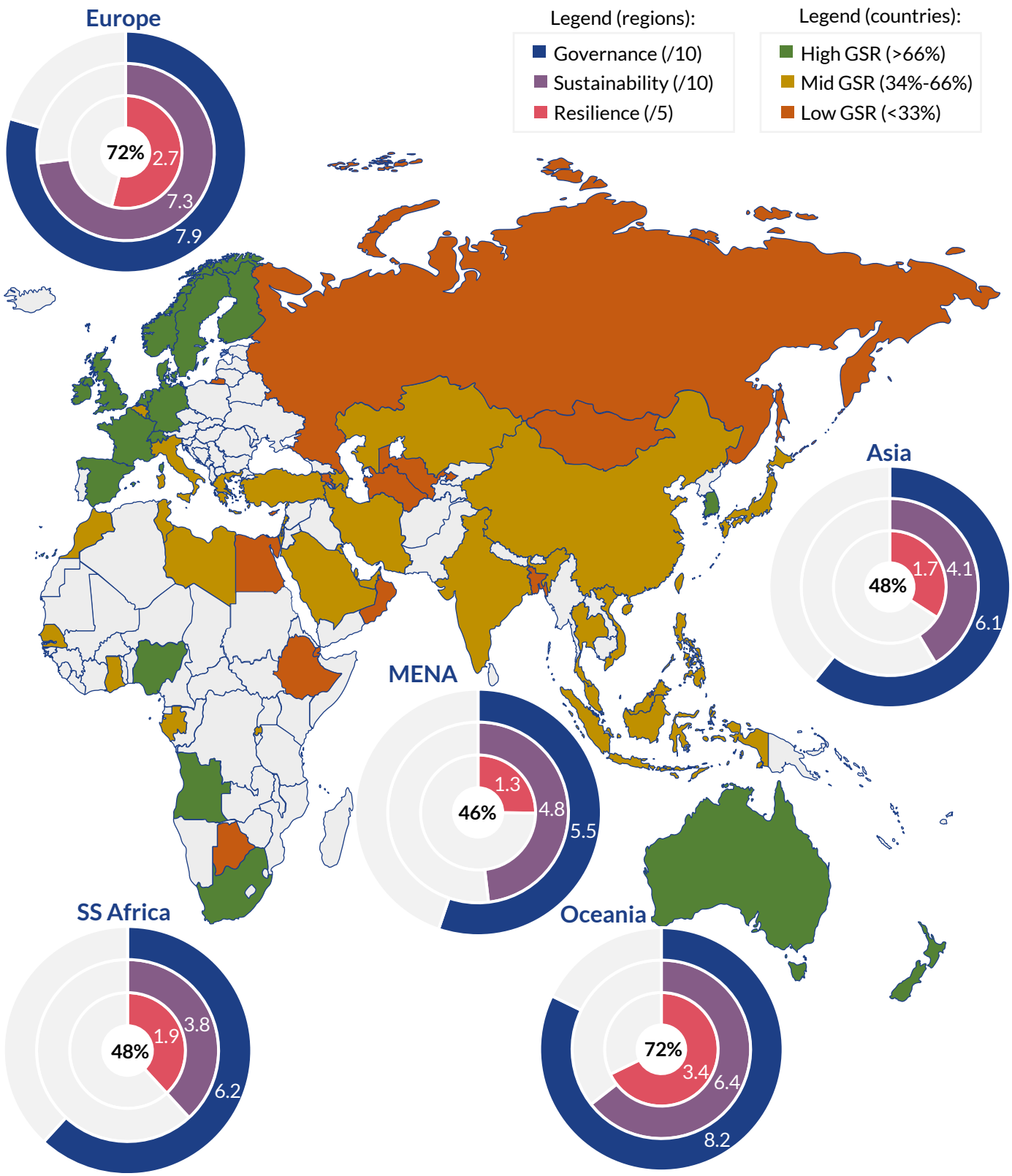
Figure 7. Top 25 SOIs ($bn)







Source: Global SWF Data Platform


Europe
72%
2.7
7.3
7.9
Legend (regions):
Governance (/10)
Sustainability (/10)
Resilience (/5)
Legend (countries):
High GSR (>66%)
Mid GSR (34%-66%)
Low GSR (<33%)
Asia
48%
1.7
4.1
6.1
MENA
46%
1.3
4.8
5.5
SS Africa
48%
1.9
3.8
6.2
Oceania
72%
3.4
6.4
8.2

3.1. Correlation with ratings

In this third edition of the GSR Scoreboard, we rate 200 SOIs hailing from 81 different territories. By consolidating the data at national level, we can look at the countries that run their funds in the best manner.

The top tier list, with a GSR of over 66% (depicted in green in the map of pages 8-9), includes countries in Europe (Ireland, Sweden, Luxembourg, Norway, Netherlands, Denmark, France, Spain, Germany, the UK, Switzerland and Finland), in Developed Asia and Pacific (New Zealand, Hong Kong, Australia, South Korea and Singapore) and Canada. Perhaps the most surprising countries in that list are Nigeria, South Africa and Angola, with one state investor each. The elite club does not include Chile, which falls short in sustainability; and the USA, which fall short in both sustainability and resilience.

Credit Ratings:

We have tested the relevance and correlation of national-level GSR with some other metrics. The first one is the credit ratings for the sovereign debt, as measured by the three top agencies: Standard & Poor's, Moody's and Fitch Ratings.

The alphanumeric ratings are converted into numbers, and averaged across the three datapoints for each country. Only eight territories are not rated by the agencies: Nauru, Libya, Iran, Palestine, Kiribati, Cape Verde, Monaco and Brunei.

The resulting list of numeric ratings indicates a moderate positive linear relationship between the GSR scores and the average credit ratings, at 0.55. The correlation with each of the individuals factors is exactly the same: 0.47.

Table 6: Numeric equivalence of Credit Ratings

S&P / Fitch	Moody's	Rating	S&P / Fitch	Moody's	Rating
AAA	Aaa	*100*	BB+	Ba1	*50*
AA+	Aa1	*95*	BB	Ba2	*45*
AA	Aa2	*90*	BB-	Ba3	*40*
AA-	Aa3	*85*	B+	B1	*35*
A+	A1	*80*	B	B2	*30*
A	A2	*75*	B-	B3	*25*
A-	A3	*70*	CCC	Caa1	*20*
BBB+	Baa1	*65*	CC	Caa2	*15*
BBB	Baa2	*60*	C	Caa3	*10*
BBB-	Baa3	*55*	D	Caa	*5*

Source: Ferri, Liu & Majnoni; Basel Guidelines on Rating-Agency Assessments

Corruption Perceptions Index (CPI):

Transparency International (a German non-profit founded in 1993 by former employees of the World Bank) publishes an annual index that ranks ranks 180 countries and territories by their perceived levels of public sector corruption.

From our sample, six territories are not rated by the CPI: Nauru, Palestine, Kiribati, Cape Verde, Monaco and Brunei. The correlation with the GSR is slightly stronger at 0.58. The largest correlation is with the sustainability factor (0.52), followed by resilience (0.48) and governance (0.45).

Table 5. Countries per GSR, Ratings, CPI & FH

#	Territory	# SOIs	GSR	Ratings	CPI	FH
1	New Zealand	1	**96%**	95%	88%	99%
2	Ireland	1	**96%**	80%	74%	97%
3	Sweden	1	**92%**	100%	85%	100%
4	Luxembourg	1	**92%**	100%	81%	97%
5	Norway	3	**89%**	100%	85%	100%
6	Netherlands	4	**89%**	100%	82%	97%
7	Canada	11	**86%**	98%	74%	98%
8	Denmark	4	**85%**	100%	88%	97%
9	France	3	**84%**	90%	71%	89%
10	Panama	1	**84%**	58%	36%	83%
11	Nigeria	1	**84%**	28%	24%	43%
12	Spain	1	**80%**	70%	61%	90%
13	South Africa	1	**80%**	42%	44%	79%
14	Angola	1	**80%**	20%	29%	30%
15	South Korea	4	**77%**	88%	62%	83%
16	Hong Kong	2	**76%**	88%	76%	43%
17	Australia	14	**75%**	100%	73%	95%
18	Germany	3	**75%**	100%	80%	94%
19	UK	3	**71%**	87%	78%	93%
20	Singapore	3	**69%**	100%	85%	47%
21	Switzerland	3	**68%**	100%	84%	96%
22	Finland	3	**68%**	95%	88%	100%
23	Brazil	2	**66%**	42%	38%	73%
24	USA	34	**65%**	98%	67%	83%
25	Nauru	1	**64%**	n.a.	n.a.	77%
26	Thailand	2	**64%**	65%	35%	29%
27	India	3	**60%**	55%	40%	66%
28	Greece	1	**60%**	45%	49%	87%
29	Rwanda	1	**60%**	33%	53%	22%
30	Tunisia	1	**60%**	20%	44%	64%
31	Libya	1	**60%**	n.a.	17%	9%
32	Kazakhstan	4	**57%**	57%	37%	23%
33	Malaysia	5	**57%**	68%	48%	50%
34	Qatar	1	**56%**	85%	63%	25%
35	Chile	1	**56%**	75%	67%	94%
36	Italy	1	**56%**	58%	56%	90%
37	Senegal	1	**56%**	38%	43%	68%
38	Belgium	1	**52%**	87%	73%	96%
39	Kuwait	2	**52%**	85%	43%	37%
40	Azerbaijan	2	**52%**	48%	30%	9%
41	Bahrain	1	**52%**	33%	42%	12%
42	Iran	1	**52%**	n.a.	25%	14%

#	Territory	# SOIs	GSR	Ratings	CPI	FH
43	Morocco	2	50%	52%	39%	37%
44	Dubai	4	48%	88%	69%	17%
45	Indonesia	2	48%	60%	38%	59%
46	Gabon	1	48%	23%	31%	21%
47	Palestine	1	48%	n.a.	n.a.	23%
48	Abu Dhabi	5	44%	90%	69%	17%
49	Philippines	1	44%	62%	33%	55%
50	T&T	1	44%	53%	41%	82%
51	Turkey	1	44%	35%	38%	32%
52	Timor-Leste	1	44%	n.a.	41%	72%
53	Guyana	1	44%	n.a.	39%	73%
54	Japan	7	43%	78%	73%	96%
55	Israel	1	40%	82%	59%	76%
56	Saudi Arabia	4	40%	75%	53%	7%
57	Colombia	1	40%	53%	39%	64%
58	Ghana	1	40%	25%	43%	80%
59	Kiribati	1	40%	n.a.	n.a.	93%
60	China	4	38%	80%	45%	9%
61	Vietnam	1	36%	43%	39%	19%
62	Argentina	1	36%	15%	38%	84%
63	Mexico	1	36%	60%	31%	60%
64	Taiwan	3	35%	90%	68%	94%
65	Oman	1	32%	38%	52%	24%
66	Armenia	1	32%	38%	49%	55%
67	Egypt	1	32%	32%	33%	18%
68	Bolivia	1	28%	32%	30%	66%
69	Djibouti	1	28%	n.a.	30%	24%
70	Russia	2	22%	7%	29%	19%
71	Botswana	1	20%	68%	55%	72%
72	Uzbekistan	1	20%	38%	28%	11%
73	Cape Verde	1	16%	25%	n.a.	92%
74	Peru	1	12%	67%	36%	72%
75	Cyprus	1	12%	52%	53%	93%
76	Mongolia	3	12%	28%	35%	84%
77	Ethiopia	1	12%	20%	39%	23%
78	Monaco	1	12%	n.a.	n.a.	84%
79	Brunei	1	8%	n.a.	n.a.	28%
80	Bangladesh	1	4%	40%	26%	39%
81	Turkmenistan	1	4%	35%	19%	2%
	Total	**200**	**59%**	**62%**	**51%**	**60%**

Sources: CPI, FH, Ratings Agencies, Global SWF analysis

Freedom House (FH) Index:

Freedom House (a DC-based non-profit founded in 1941) monitors the state of freedom and democracy around the world and rates people's access to political rights and civil liberties in 210 countries and territories annually.

This is the most comprehensive index and it rates all 81 countries in our study. However, the correlation with the GSR is lower at 0.39. Governance and resilience are both at over 0.40, but sustainability is much lower at 0.21.

Table 7: Correlation between GSR and other metrics

Element	with Ratings	with CPI	with FH
G	0.47	0.45	0.41
S	0.47	0.52	0.21
R	0.47	0.48	0.40
GSR	**0.55**	**0.58**	**0.39**

Sources: Global SWF analysis

Countries with several funds are more likely to be in the middle of the table, as not all of them are managed in the same manner, especially when SWFs are mixed with PPFs.

The bottom part of the table includes countries that have in our sample only one sovereign investor, which has performed poorly. Some of them include recently created funds such as Egypt's **TSFE**, Cyprus' **NIF** and Djibouti's **FSD**, and others are stabilization funds with very little information, such as Botswana's **Pula**, Peru's **FEF**, and Turkmenistan's **STF**.

The exceptions to this rule are Russia and Mongolia. The two Russian SWFs have found themselves subject to sanctions overnight, which has affected their transparency and operations. **NWF** stopped publishing its monthly stats, while **RDIF** has removed its partnerships from its website.

Mongolia is still trying to figure out how to manage its significant mineral wealth, and has set up five different SWFs in the past 15 years. The three that are still extant have very poor scores and virtually no public information available.

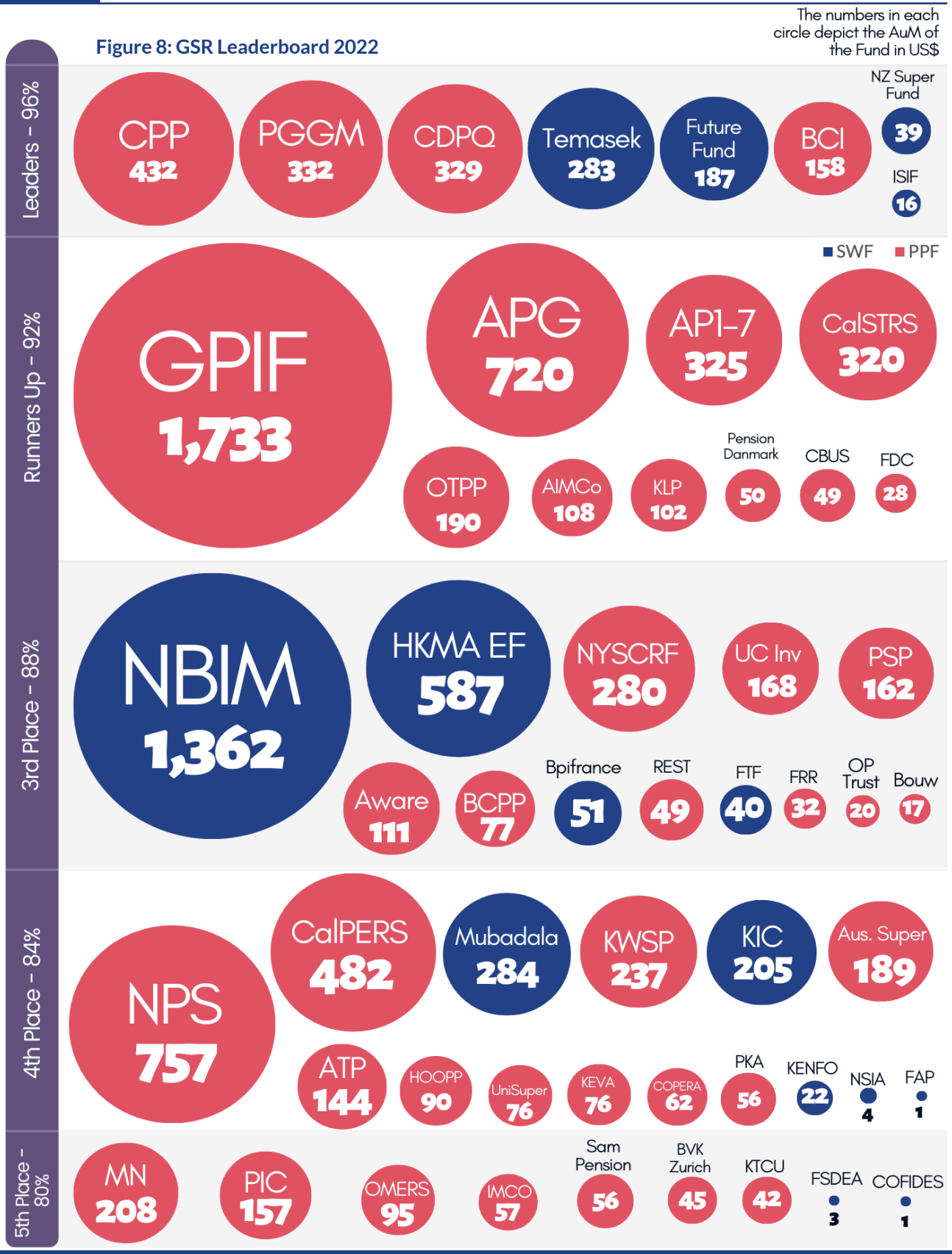
Natural Resources Governance Institute (NRGI) Index:

NRGI is a NY-based non-profit established in 2013 through the merger of the Revenue Watch Institute and the Natural Resource Charter, which looks at whether countries rich in natural resources (O&G and mining) promote good governance and a sustainable and inclusive development. NRGI's index assigns a score per nation; however, the 2021 index stopped covering several SWF-relevant countries.

We could only find 12 countries with both an NRGI index and a GSR score, and those do not present a meaningful correlation. In fact, the NRGI index is more generous, except in the cases of Nigeria, where **NSIA** is setting the best practices at African level, and Qatar, thanks to **QIA**'s enhancements this year.

4. GSR results by Sovereign Investor

Figure 8: GSR Leaderboard 2022



This year's scoreboard is led by eight State-Owned Investors: three from North America (CPP, CDPQ and BCI), two from Europe (PGGM, ISIF), one from Asia (Temasek) and two from Oceania (Future Fund and NZ Super Fund), all with 96%.

The leaderboard is strongly dominated by pension funds (in pink): of the 55 leaders, only 15 are SWFs. Most of the funds scoring 80% and above hail from developed markets: 21 from Europe, 15 from North America and 14 from Developed Asia and Pacific. Only three are African, one Latin American and one Middle Eastern.

The 55 leaders manage a total of US$ 11.7 tn in capital, i.e., 44% of the capital assessed this year. They lead the way in terms of best practices, with an average 9.1/10.0 "G score", an average 8.8/10.0 "S score", and an average 4.0/5.0 "R score".

We note significant progress beyond the leaders: in comparison with 2021, 61 got higher marks, 23 stayed the same and only 16 got lower marks. The sovereign investors with the largest improvements were the following:

- Angola's FSDEA (*+40%*) is still recovering from the reputational crisis it endured in recent years under the previous administration. A new leadership is now in place, with a brand-new policy for external managers and risk control. The fund suffered a significant withdrawal during Covid-19 but is working to be more resilient.
- Qatar's QIA (*+32%*) is becoming more transparent and sustainable, as it gets ready to join the club of the world's largest SWFs. Its website offers new information around governance, structure and domestic portfolio, and the fund has now appointed ESG-focused personnel and pledged its support for TCFD policies.
- Gabon's FGIS (*+32%*) has recently revamped its website, which now shows detailed information about its governance, structure, AuM and portfolio. The fund is doing a tremendous job at supporting the country's infrastructure, key sectors, and SMEs, and has been very active in pursuing further international outreach and platforms.
- Abu Dhabi's Mubadala (*+28%*) continues to lead the way in terms of best practices in the Middle East. The fund offers detailed information in its bond prospectus, and it now reports asset allocation and rolling returns, too. The responsible investing team has grown significantly in the past year, to around 10 members of staff.
- Indonesia's INA (*+28%*) had it a bit easier as it only started operating in 2021, but is off to a great start with a lot of information publicly available on its website including audited statements, LP contributions, investments, code of conduct and risk management policy. It hired ESG experts just months after being established.

Disclaimer about the GSR scoreboard:

Global SWF's GSR scoreboard should not be considered an endorsement of certain investors over others, and it is not necessarily a reflection of current or future events. Some funds may have ticked certain boxes but that does not make them more trustworthy or successful. E.g., South Africa's PIC kept an 80% score but it recently suspended its COO on alleged misconduct. Kazakhstan's Samruk-Kazyna also held on to its 72% score, despite letting go half of its staff and closing its offices overseas. Timor Leste's PF has strong fiscal rules that were ignored during Covid-19 to provide the government with some extra cash. And Alaska's PFC, Turkey's TVF and Djibouti's FSD circumnavigated governance mechanisms when their CEOs were fired overnight. Sadly, government-related investors will always have certain degree of uncertainty, and GSR scores are not necessarily indicative of future results or best practices.

Table 8: Differences 21/22

Fund	Country	Diff
FSDEA	AO	+40%
QIA	QA	+32%
FGIS	GA	+32%
Mubadala	AE	+28%
INA	ID	+28%
DP World	AE	+24%
FONSIS	SG	+24%
PIF	SA	+20%
NDFI	IR	+20%
KEVA	FI	+20%
ISIF	IE	+20%
KIA	KW	+16%
ADQ	AE	+16%
HOOPP	CA	+16%
OPTrust	CA	+16%
CADF	CN	+16%
ADIA	AE	+12%
APG	NL	+12%
EIA	AE	+12%
TCorp	AU	+12%
IMCO	CA	+12%
SOFAZ	AZ	+12%
VER	FI	+12%
Dubai Hdg	AE	+12%
Ithmar	MA	+12%
FAP	PA	+12%
GPIF	JP	+8%
CPP	CA	+8%
PGGM	NL	+8%
AP1-7	SE	+8%
CalSTRS	US	+8%
BCI	CA	+8%
PIFSS	KW	+8%
LIA	LY	+8%
FRR	FR	+8%
Khazanah	MY	+8%
WYO	US	+8%
TVF	TR	+8%
PD	DK	+8%
TSFE	EG	+8%
CDP Eq	IT	+8%
Agaciro	RW	+8%
NRF	GY	+8%
CalPERS	US	+4%
ICD	AE	+4%
Temasek	SG	+4%
NYSCRF	US	+4%
Texas TRS	US	+4%
OTPP	CA	+4%
AusSuper	AU	+4%
PSP	CA	+4%
NBK	KZ	+4%
Texas PSF	US	+4%
BIA	BN	+4%
Bpifrance	FR	+4%
ND RIO	US	+4%
NIIF	IN	+4%
NSIA	NG	+4%
COFIDES	ES	+4%
FSD	DJ	+4%
Nauru TF	NA	+4%

Source: GSR 2021 & 2022

4.1. Correlation with returns

We often get the question "the GSR scoreboard is great for best practices, but how does it address my bottom line? Like, how does it really matter?". Our answer usually is – it matters more than you think.

We recently went through our annual update of investment returns. Comparing returns across SOIs is never easy and it usually takes a lot of assumptions and disclaimers. Yet, most funds have now reported their FY21 results, and we have looked at the average returns for the past six years, which we consider a fair cycle. Of the overall sample, we could calculate the returns for 94 SOIs, with the following, usual caveats:

- SOIs have different fiscal years and those reporting in March and June have traditionally had a disadvantage
- Some funds only report returns on a rolling basis, so we've estimated the six-year figure with internal models
- FY21 was a great year for investing and favored the most liquid funds, but 2022 may quickly change that

Intuitively, stabilization funds and strategic funds report lower averages, while savings funds and pension funds have better results, given their risk appetite and asset allocation. The average return for a Sovereign Investor in that period was 7.7%. We removed three outliers: ATP, PensionDanmark and QIC.

In this context, we have studied the relationship between high standards around governance, sustainability and resilience, and superior financial returns, with the following results:

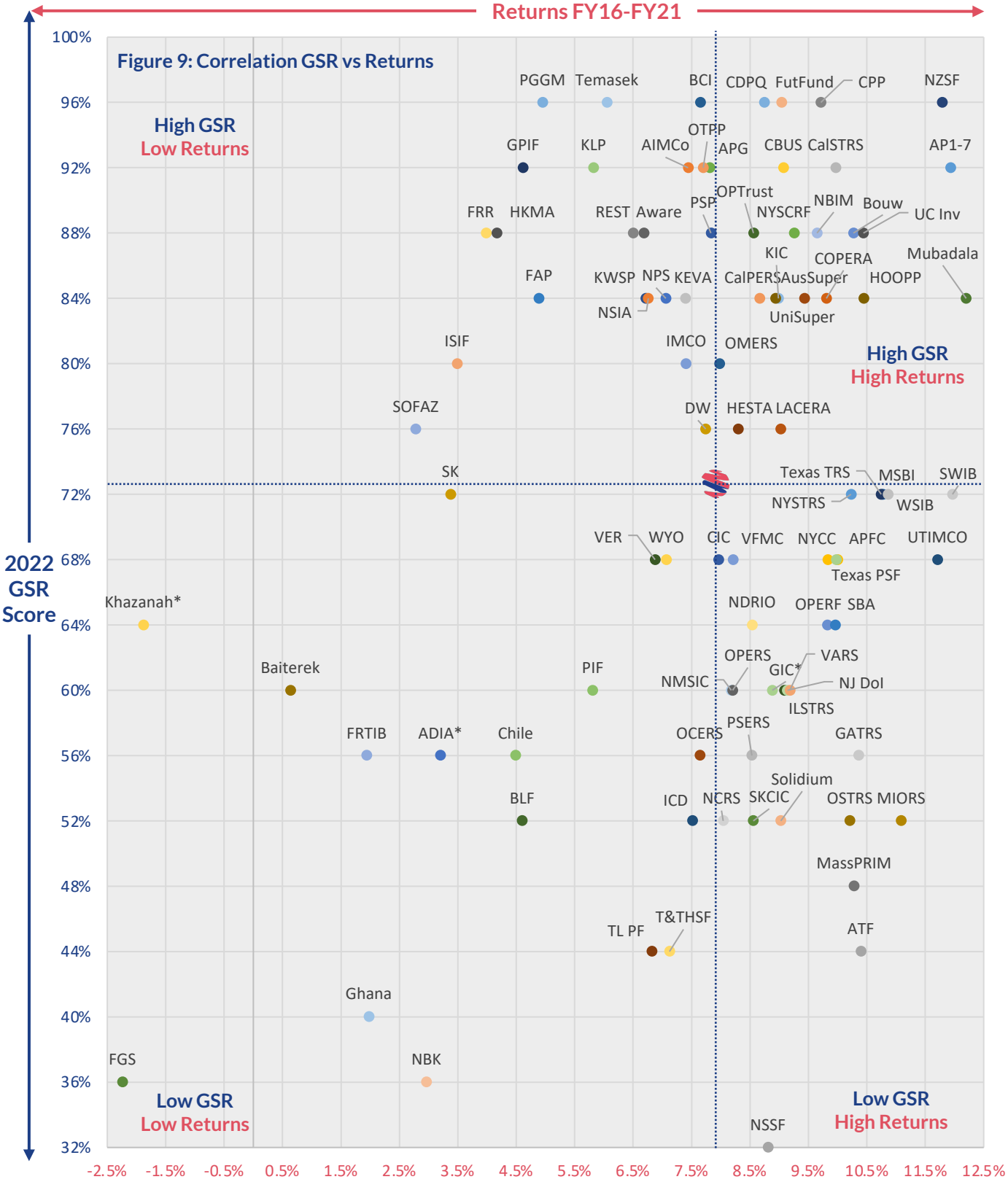
- **G scores vs Returns:** 0.40 correlation. This is the strongest positive relationship and suggests that a robust governance, transparency, and accountability can lead to good financial returns. Of those with a perfect G score, only Azerbaijan's SOFAZ averaged a return under 3% due to its very liquid investment profile.
- **S scores vs Returns:** 0.08 correlation. Several studies have suggested that responsible investing leads to superior returns and, indeed, we can observe a positive albeit weaker relationship. Some US retirement funds including SWIB, Michigan ORS and MassPRIM have returns over 10% despite having a poor S score.
- **R scores vs Returns:** 0.07 correlation. This relationship is still positive but the weakest among them all. Some very resilient stabilization funds like HKMA have lower returns due to their specific investment profile, while some strategic funds with a bad R score like Finland's Solidium present a strong financial returns.
- **GSR scores vs Returns:** 0.22 correlation. Unfortunately, the overall coefficient has decreased from last year's 0.30 because of the new funds added to the sample, and the results could be stronger, no doubt. But there are many other conditions in play, such as the mission, investment profile, and manager's alpha.
    - SOIs with high GSR scores and high returns: NZ Super, CPP and AP-Fonden, among others
    - SOIs with high GSR scores but low returns: GPIF, Temasek and OTPP, among others
    - SOIs with low GSR scores but high returns: CIC, GIC and Texas TRS, among others
    - SOIs with low GSR scores and low returns: ADIA, Khazanah and Thrift Savings Plan, among others

Table 9. GSR Scores and Returns of SOIs per mission

	Average GSR 2022*	Average Return FY16-21	Correlation
Stabilization Funds	61%	4.1%	0.09
Savings Funds	67%	8.8%	0.34
Strategic Funds	69%	5.8%	0.08
Sovereign Wealth Funds	66%	6.9%	0.17
Public Pension Funds	77%	8.7%	0.16
State-Owned Investors	**72%**	**8.0%**	**0.22**

Source: Global SWF's GSR Scoreboard 2022

** The average GSR scores reflected here refer to the SOIs whose returns where available only, and could therefore differ from the average GSR scores shown on page 5 of this report*



*Source: Global SWF analysis. * Single-year returns estimated from reported rolling returns*

4.2. GSR Leader: CPP Investments

One of the leaders of the year, with a 96% score, was Canada's largest Public Pension Fund, **CPP Investments**. We had the great pleasure of speaking with Ed Cass, its SMD and Chief Investment Officer about the GSR scoreboard different elements, the keys for **CPP Investments**' success and his future ambitions for the fund.

[GSWF] CPP Investments closed FY22 with CAD 539 bn (US$ 421 bn), which is CAD 56 bn (US$ 44 bn) more than initially projected. How did you do that and what are the fund's main success factors?
[CPP] The projections were prepared by the Chief Actuary assuming returns between 5% and 5.5% p.a. for 2019-2021. However, and mainly due to the strong performance of global equity markets, the fund did better than anticipated and ***averaged a 10% return*** *over that period.*

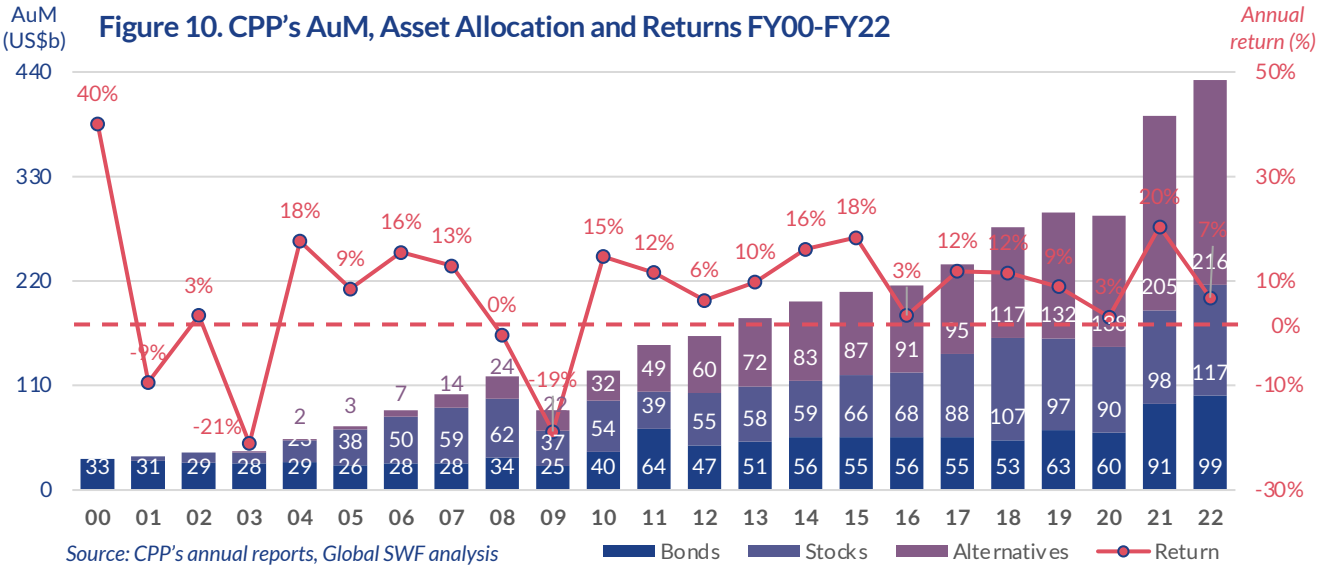
[GSWF] In the past 10 years, the fund has reduced 20% of its weight in bonds and stocks to the benefit of PE and infrastructure; and 24% of its weight in Canada. What will your portfolio look like in 10 years from now?
[CPP] 15 years ago, we embarked on a journey of active investment that has allowed us to increase our geographical diversification as well as our exposure to alternatives. Undoubtedly, there will be changes along the way, but I'd say we are now at our ***targeted level*** *of diversification in terms of both regions and asset classes. Possible areas of future change include incorporating* ***inflation sensitive assets*** *and adapting the portfolio to reflect the increasing size of the Additional CPP, which has a lower targeted level of risk. I don't anticipate major changes around* ***liquidity and leverage*** *either.*

[GSWF] Your performance in FY22 was driven by Private Equities and Real Assets – what do you expect for FY23 given an environment of high inflation, low interest rates and high geopolitical uncertainty?
[CPP] We continue to study the effects on the fund our portfolio construction under various scenarios. We think it is reasonable to expect that ***real rates will continue to renormalize****. That should lead to an increase in the discount rate upon which all asset prices are valued, which will be a headwind for asset prices in general.*

[GSWF] CPP Investments has now over 2,000 employees in nine different cities managing over 90% of its portfolio in-house. Have you reached your optimal organizational size, or are you planning any other office?
[CPP] While we do not plant flags in every major investment market, we have established a ***strong regional presence*** *in proximity to significant assets and partners in* ***Americas, Europe and Asia-Pacific****. Our current footprint serves our needs and we do not foresee pursuing a major expansion plan.*

[GSWF] You recently had a workshop with CalPERS to share your journey and best practices – what would be your advice to other SOIs reading this report and trying to follow CPP Investments' footsteps?
[CPP] One of our keys for success is to build the most ***robust portfolio*** *possible, and not to incorporate too many* ***tactical elements*** *in its construction. The best protection is to be resilient to market cycles and different market stresses.*

Figure 10. CPP's AuM, Asset Allocation and Returns FY00-FY22



Source: CPP's annual reports, Global SWF analysis

[GSWF] Let's now look at the three different aspects of the GSR Scoreboard for CPP Investments:

Governance ("G"):

[GSWF] The split between Base CPP and the Additional CPP seems a bit confusing from a risk appetite perspective – how do you ensure independence and fairness between both pools of capital?
*[CPP] The Additional CPP is required to be a fully funded pension plan, while the Base CPP is partially funded only, which implies **different levels of risk appetite and asset allocation**. We tie funding levels of the accounts to targeted levels of risk, and internal advisors and policies are in place to ensure **fairness** between the two accounts. These policies are reviewed annually by our Board.*

[GSWF] CPP Investments is a frequent co-investor with other Government-related investors, including those from the Middle East and Far East Asia – what is your take on global strategic relations?
*[CPP] We partner with diverse types of investors across the entire investment universe such as other public pension funds, PE, state-owned enterprises, banks, asset managers, and so on – whenever we strike a **common goal**.*

Edwin Cass, CPP Investments' Chief Investment Officer (CIO)

Sustainability ("S"):

[GSWF] Last year, CPP Investments merged various teams to create "Sustainable Energies" and also appointed its first Chief Sustainability Officer. Is ESG integrated across all asset classes?
*[CPP] ESG risks and opportunities are **embedded** in the investment strategy where we can achieve the most value - our investment teams work closely with support teams including legal, finance risks and analytics to ensure that ESG is considered in the investment decision process where we can identify opportunities or mitigate risk. We are also in the journey of becoming **Net Zero by 2050**, hence the appointment of Deb Orida as Chief Sustainability Officer (CSO).*

[GSWF] CPP Investments has committed to reach Net Zero by 2050 and yet, it is still absent from the Paris Aligned Investment Initiative and from the Net Zero Asset Owner Alliance – is this by design?
*[CPP] Yes, it is indeed by design. Committing to short term goals is challenging for a fund of our size and for the nature of our mandate. We believe we must **retain flexibility in the path** towards these goals and signing up for these initiatives would not be prudent for us. However, we have our own targets for decarbonization and aim at increasing our investments in green and transition assets from CAD 67 bn (**US$ 54 bn**) to CAD 130 bn (**US$ 104 bn**) by 2030.*

Resilience ("R"):

[GSWF] CPP Investments demonstrated an incredible resilience during the market turbulence of FY16 and the COVID-19 pandemic in FY20, beating its benchmark significantly. How did you do that and are you confident it will keep working during the next market shock?
*[CPP] We spend most of our time ensuring our portfolio is diverse in terms of asset classes and regions and is sustainable in the long term. During COVID-19, we managed to strengthen our **crisis management governance**, which will allow us to even better respond to future, similar market shocks.*

[GSWF] You joined CPP Investments in 2008 – what main changes have you observed in the past 14 years and what changes do you think are still needed to make the fund a bullet-proof organization?
*[CPP] In the past 14 years, CPP Investments has experienced a dramatic increase in terms of offices (from 3 to 9 today), employees (from 386 to 2,000+ today) and asset size (from CAD 122 bn to CAD 540 bn today). These were fueled by the level of **active management** (from 20% to 60% today), **internationalization** (from 50% in Canada to 16% today) and **leverage** across the portfolio (from 0% to 22% today), among other changes.*

*Going forward, we will continue to tackle climate change across three dimensions: **transition, fiscal and innovation risk**.*

5. GSR results by element

Governance: 10 elements (*into brackets, % of SOIs that scored every element*)

#1 – Mission & vision: Does the Fund clearly state its mission, objective, or purpose? (*100%*)
This is the easiest element to be answered. The purpose is at the core of the fund's existence, and most SOIs state their objectives on their website. Those that do not maintain a website do it through other public means. Bangladesh's strategic fund **BIDF** and Turkmenistan's stabilization fund **SFT** only scored on this point.

#2 – Deposit & withdrawal rules: Does the Fund clearly state how it is funded and possibly withdrawn? (*69%*)
#2 for SWFs: Do we know how the fund gets its capital from and how is it possibly withdrawn?
#2 for PPFs: Is there a statement for the contributions and distributions made to pensioners?
This question is aligned to question #23 but seeks transparency rather than resilience. For PPFs, this year we considered data coming from the main depositor around contributions and distributions, which has allowed pension managers such as **BCI** (BC Hydro), **PGGM** (PFZW) and **VFMC** (ESSSuper) to score additional points.

#3 – External manager reputation: Is there a robust process to select external managers, if any? (*48%*)
This question seeks transparency in the selection of external parties to avoid recent cases such as Malaysia's **1MDB**. Some strategic funds act as de-facto managers for their asset owner and this question may not be fully applicable to them, so we are seeking a way to avoid penalizing them for a "not applicable" rather than a "no".

#4 – Internal & external governance: Does the Fund provide clarity of its governance structure? (*87%*)
This is the second most commonly addressed element by State-Owned Investors: who are the main stakeholders and how is the Board of Directors / Trustees and the leadership formed? Now, if we were to seek true independence of those Board members from Government, the result would have been much lower.

#5 – Investment strategy & criteria: What kind of assets does the Fund seek to invest in? (*85%*)
The investment strategy is a common question to be answered to, and some SOIs would go as far as listing specific criteria a business should meet in order to be funded. Only 23 SWFs – mostly strategic funds – and seven PPFs fail to mention what kind of stocks or assets they are looking for.

#6 – Structure & operational data: How is the Fund structured as an investment organization? (*53%*)
We are often challenged by the inclusion of this question and the rationale of asking for an organizational chart. However, we believe it says a lot about how any kind of organization is run and it is a key information to be shared with the stakeholders. Norway's **NBIM** and Singapore's **Temasek** continue to miss this criterion.

#7 – Annual accounts audited: Are financial statements audited and in the public domain? (*69%*)
We could find and read the audited statements of 84% of the pension funds assessed – however, the ratio is much lower among sovereign funds, and 46 of them fail to have their financials publicly available. These may be signed off by the State Auditor or by a major accounting firm, but their citizenry is not able to access them.

#8 – AuM figure public: Does the Fund provide clarity on how much capital it manages? (*86%*)
Only 28 of the 200 State-Owned Investors (mostly SWFs) still consider the size of their balance sheet a state secret. **Global SWF** runs internal models to estimate them all and could persuade one of the funds, Iran's **NDFI**, to confirm its latest AuM: US$ 139 bn, making it the world's 17th largest SWF (https://globalswf.com/ranking).

#9 – Details of investment portfolio: Does the Fund provide clarity on what assets it currently holds? (*66%*)
An increasing number of State-Owned Investors offer an insight into their main portfolio investments. A few selected of them provide a comprehensive account of every holding, including their market value. These include Japan's **GPIF**, New Zealand's **NZ Super**, Norway's **NBIM** (except for real estate), and USA's **CalPERS**.

#10 – Annual vs LT return: Is the most recent year's return provided? (*65%*)
This question highlights the heterogeneity of the industry, as every investor reports results in a different way. We ask for single-year investment return, as opposed to income statement margins. Certain SOIs including **ADIA**, **GIC**, **Khazanah**, **Mubadala** or **PIC** try to avoid short-termism by only providing multi-year rolling returns.

Champions in Governance: NZ Super Fund

The New Zealand Super Fund (NZSF) was set up in 2001 to smooth out the increasing cost of superannuation or pensions for workers, thereby reducing the need for tax rises and spending cuts in future generations. By 2040, NZSF is expected to pre-pay 20% of the pensions, beyond KiwiSaver or any other voluntary scheme.

The Fund is a pool of Crown assets and has received since inception contributions for about US$ 13.6 bn. According to the current forecasts, the government's net withdrawals will start in 2033 and add up to over US$ 31 bn by 2060. However, NZSF would keep growing every year, up to a forecast US$ 340 bn.

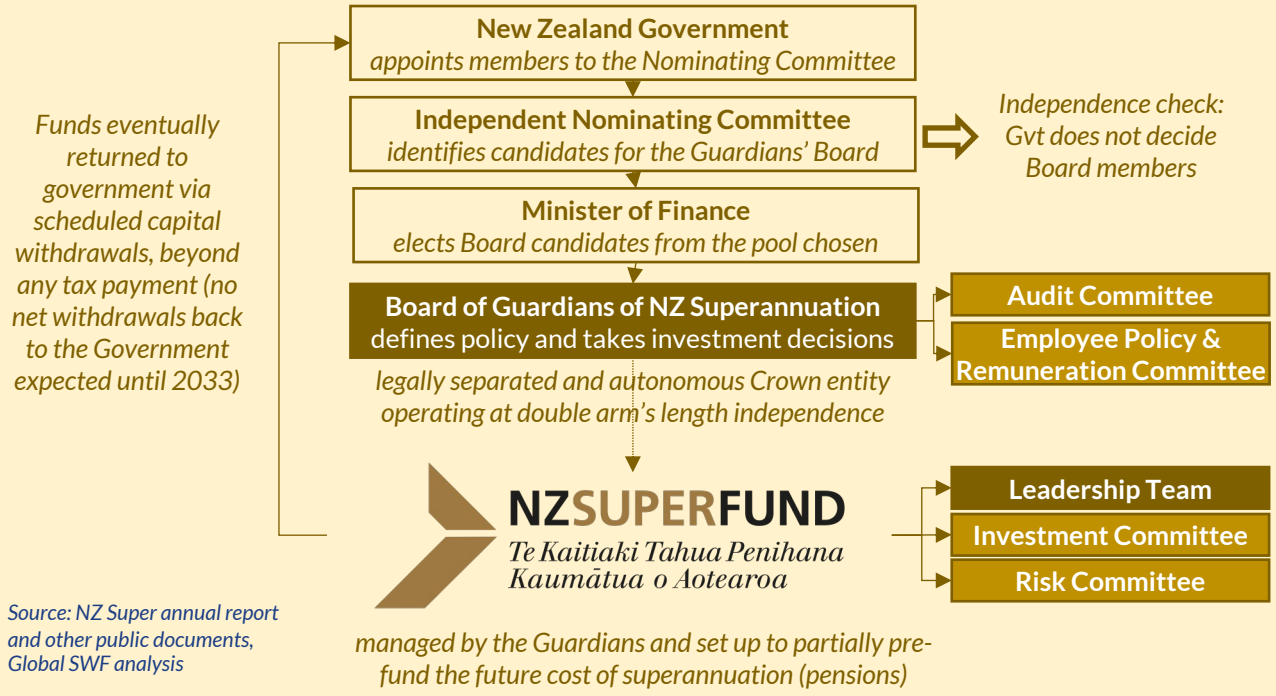
The autonomy of NZSF is ensured by a robust governance framework, which is rare among SWFs. The Guardians of New Zealand Superannuation is the Fund's manager and is accountable to the Government but is legally separated and operates with double-arm's length independence. The Board members of the Guardians are not politicians or appointed by the Crown, but rather they are nominated by an independent committee.

The Board is comprised of five to seven members, who are appointed for up to five years. The body regularly reviews its delegations and priorities and regularly visits international peer funds for the purpose of assessing best practices. It has two standing committees: Audit, and Employee Policy & Remuneration.

The day-to-day responsibility for the operation of the business is delegated to the Chief Executive and its leadership team, which is comprised of the CIO, and five "general managers", in matters including Human Resources, Corporate Affairs, Technology, Portfolio Completion, Finance & Investment Operations, and Risk.

Additionally, there are two committees at Fund level comprised of internal staff: the Investment Committee, which ensures the ongoing fit of the portfolio by monitoring and reviewing investment activities; and the Risk Committee, which supports the effective governance of non-investment risks at the Guardians.

Figure 11: NZ Super Fund's Governance Structure



Source: NZ Super annual report and other public documents, Global SWF analysis

Sustainability: 10 elements (*into brackets, % of SOIs that scored every element*)

#11 – Ethical standards & policies: Does the Fund have a code of conduct or conflict of interest policy? (*64%*)
We seek a formal and developed policy around ethics, conduct or conflicts of interest; or an investment exclusion list, which funds like Sweden's **AP Fonden** and Australia's **Future Fund** maintain guided by an ethical concerns. Many SOIs list their values along with their mission and vision, but do not provide any further detail.

#12 – Stewardship team in place: Does the Fund employ a dedicated team for Responsible Investing? (*43%*)
One would think that sustainability is in every investor's mind these days – but the answers to this question say otherwise: a total of 68 SWFs and 46 PPFs of our sample do not employ a single ESG-dedicated professional. Some of those would still claim that sustainability factors are integrated into their investment decision process.

#13 – Economic mission: Does the Fund seek economic advancement? (*43%*)
This question is intrinsically linked to question #19, as most strategic funds pursue not only financial returns but also the development of the host economy. Funds can also have an economic mission overseas, as is the case of China's **CADF** in several African countries, including Ethiopia, Ghana, Kenya, Zambia, and South Africa.

#14 – Economic impact & measure: Are ESG key metrics or figures provided? (*34%*)
Funds with economic goals should report appropriate KPIs, and these are normally reported in an annual ESG report (see next question). The few exceptions include Saudi's **PIF** (which reports jobs and GDP contribution), India's **NIIF** (patients treated, SMEs supported), and Palestine's **PIF** (job opportunities and SME supported).

#15 – ESG annual report: Does the Fund produce an annual ESG report? (*31%*)
This question seeks a standalone responsible investing report, or a meaningful section in the annual report, published on a regular basis. Only a 31% of the sample – 13 SWFs and 48 PPFs – meet the requirement today. Furthermore, some ESG reports could use more specific KPIs and progress, and less standard literature.

"Only 51% of the funds include ESG in their risk management policies, only 43% employ ESG professionals, and only 31% report ESG activities regularly"

#16 – Alignment with SDGs: Is the Fund a UNPRI signatory member or does it align with the SDGs? (*43%*)
Only 32% of the SOIs, including 13 SWFs and 51 PPFs, are signatory members of the UN Principles for Responsible Investing (PRI); and 22 other institutions align with the Sustainable Development Goals (SDGs). Morocco's **Ithmar Capital** ceased to be signatory and got delisted for failing to report to PRI.

#17 – Partnership & memberships: Does the Fund collaborate with international investors or bodies? (*59%*)
This question goes beyond membership of international bodies and seeks partnerships and/or co-investments with other State-Owned Investors. Once funds start pursuing those, they are generally more transparent and accountable. This number is rapidly increasing as MoUs and clubs flourish worldwide.

#18 – Emerging markets / managers: Does the Fund invest in emerging markets and/or managers? (*78%*)
A significant number of State-Owned Investors hail from an emerging economy and invest at home; others are from the developed world and invest in growth markets; and a third group invests via emerging managers. The latter is increasingly common among US PPFs, including **NYS CRF** (US$ 9 bn) and **Texas TRS** (US$ 6 bn).

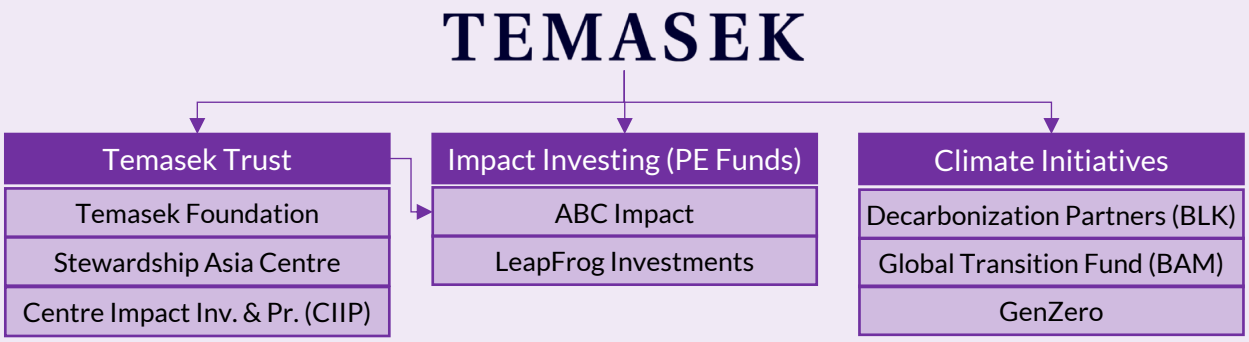
#19 – Role in domestic economy: Does the Fund invest in the domestic economy and businesses? (*79%*)
The days when SWFs were defined as solely foreign assets holders are long over. Today, 71 of the Top 100 SWFs invest domestically, and some of them do so exclusively. The exceptions continue to be **NBIM**, **ADIA**, **GIC** and **KIC**, which can only invest overseas. Of the Top 100 PPFs, most are allowed to invest domestically.

#20 – ESG risk management: Does the Fund accept and address climate change and other ESG risks? (*51%*)
Decarbonizing and climate issues are not the only ESG-related challenges, and SOIs must acknowledge non-financial risks before addressing them. Only half of the Top 200 funds talk of climate or ESG in a broader sense in their risk management policies. PPFs are much more likely (66%) to address such risks than SWFs (35%).

Champions in Sustainability: Temasek

Temasek has placed itself under an ambitious transition program with rigorous targets and discipline. Its 2021 annual report notes that its carbon emissions have risen by more than a third to 30 mn tonnes over the past decade – a figure it aims to bring down to 11 mn in net terms by 2030 and **net zero by 2050**. It has adopted a "a three-pronged approach": investing in **climate-aligned** opportunities; enabling **carbon negative** solutions; and encouraging **decarbonization efforts** in businesses. This strategy is accompanied by the bold step of carbon pricing, to internalize the economic and social costs of carbon emissions and guide investment decisions.

Figure 12: Temasek's Sustainable Initiatives



Source: Public sources and Global SWF analysis

While other SOIs have concentrated their attention on investing in renewables infrastructure, **Temasek** has taken great strides in investing in cutting-edge technology and solutions through a VC strategy. Last April, it agreed to team up with Blackrock to invest in private companies that use technology to reduce carbon emissions. **Decarbonization Partners** aims to launch a series of late-stage venture capital and early growth private equity investment funds and agreed to invest a combined US$600 mn in initial capital across the funds, which would also raise money from third-party investors and be managed by staff from both partners.

In June, **Temasek** was also one of four leading state-owned investors that threw their weight behind the Brookfield **Global Transition Fund** to invest in clean energy and bolster the Paris climate commitment of net zero by 2050. **Temasek** and **OTPP** came on board as founding partners, committing "significant capital" in the US$ 15 bn fund, which also attracted capital from **PSP Investments** and **IMCO**. The huge financial commitments indicate the weight **Temasek** is giving to energy transition in the drive towards net zero.

Lastly, also in June, the Singaporean investor launched **GenZero**, an investment platform aimed at accelerating decarbonization globally. By focusing on technology-based and nature-based solutions, and carbon ecosystem enablers, **Temasek** will use VC to eliminate its portfolio's net carbon emissions by 2050.

Table 10. Temasek's Annual Environmental Footprint

	2018A	2019A	2020A	2021A	2030T	2050T
Net portfolio emissions ('000 tCO2e)	n.a.	n.a.	30	30	11	0
Indirect emissions ('000 tCO2e)	36.2	29.7	23.6	3.6	n.a.	n.a.
Water Use ('000 m3)	9.6	11.3	7.7	2.8	n.a.	n.a.
Paper Use (mn pieces)	5.3	4.9	3.7	1.0	n.a.	n.a.
Carbon Intensity (tCO2e per employee)	49.6	37.2	28.8	4.3	n.a.	n.a.

Source: Temasek Review 2021. A = Actual, T = Target

Resilience: 5 elements (*into brackets, % of SOIs that scored every element*)

#21 – Risk Management policy: Does the Fund have a robust risk management framework in place? (*62%*)
Having a risk management policy, and having it available for the citizenry seems like a reasonable ask. And, indeed, most institutions talk about risk management in their websites, but only 52% of sovereign funds and 71% of pension funds elaborate their risk approach in detail in their websites or annual reports.

#22 – Strategic asset allocation: Is there proper thought behind the asset allocation of the Fund? (*63%*)
Having a robust asset allocation is key to define levels of liquidity an ensure resilience in times of uncertainty. Some Middle Eastern strategic funds including Abu Dhabi's ADQ and Bahrain's Mumtalakat provide a view per industries but not per asset classes – others like Mubadala have also started reporting asset classes.

#23 – Policy for withdrawals: Is there a mechanism to avoid the depletion of the Fund in the long term? (*22%*)
#23 for SWFs: Is there a specific mechanism to avoid depletion?
#23 for PPFs: Is the funding status disclosed and if so, is it 100% or above?
Not surprisingly, this question is the most difficult to respond and justify by State-Owned Investors. For SWFs, we seek a withdrawal mechanism with certain limits or conditions (see below), and only 28% meet the criteria. For PPFs, we ask for the pension scheme to report a fully funded status (100%+), which is the case for only 16%.

#24 – BCM / Crisis team in place: Does the Fund employ a dedicated Operational Risk team? (*44%*)
Covid-19 highlighted the need for State-Owned Investors to not only be successful investors, but also to be run seamlessly as robust and resilient organizations. We here seek a dedicated team around operational risk or business continuity management (BCM), which happens only in 44% of the cases: 33 SWFs and 55 PPFs.

#25 – Speed & discipline: Is the Fund generally well placed for its long-term survival? (*38%*)
This answer is based on our insights into the funds' operations and finances: some of them may have been able to tick most of the previous boxes and to adapt to unexpected crises, but we have not still found enough evidence or are not still convinced of their ability to survive in the long term despite any government control.

"Resilience among State-Owned Investors has slightly improved as a result of Covid-19, but there is still a long way to go before funds are bullet proof to government influence"

Table 11. Examples of fiscal rules among SWFs

	Deposit mechanisms	Withdrawal mechanisms
Income based	- **Alaska PFC:** 25% of Alaska's oil royalties must be deposited into the fund annually - **Kuwait KIA*:** the FGF receives 10% of all revenues and of the net income of GRF	- **Angola FSDEA:** spending cannot cumulatively exceed 40% of the fund's net assets - **T&T HSF:** withdrawal must be the lesser of 60% of shortfall and 25% of the fund's assets
Return based	- **Mexico FMP:** when the O&G annual revenues exceed 4.7% of the GDP - **Israeli Citizens' Fund:** the fund becomes active if tax revenues exceed US$ 300 mn	- **Norway NBIM (GPFG):** no greater than 3% of the fund's assets, i.e., the expected real return - **Singapore GIC & Temasek:** up to 50% of the LT real return on the invested net assets (NIR)

Source: Funds' establishment acts and public websites, Global SWF analysis.
** In August 2020, the Kuwait parliament passed a law to make the 10% transfer to the FGF contingent to budget surplus during the same fiscal year.*

Champions in Resilience: Ireland's ISIF

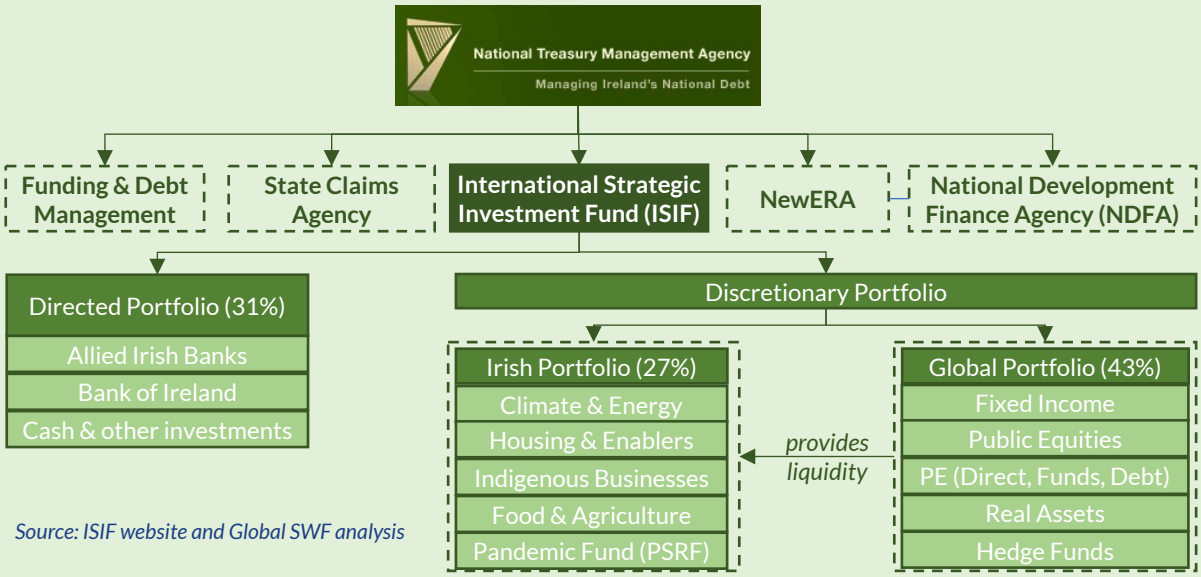
The Ireland Strategic Investment Fund (ISIF) is unique in governance, structure, and history. The fund was set up in 2014 as a successor of the National Pensions Reserve Fund (NPRF), which was largely used to rescue several domestic banks including AIB and Bank of Ireland during the aftermath of the global financial crisis.

The establishment of ISIF required certain legislative changes that led to the **NTMA Act 2014**. The National Treasury Management Agency (NTMA) manages Ireland's various pools of assets and liabilities on behalf of the Exchequer (similar to Ministry of Finance). NPRF's assets were subsequently transferred to ISIF, including US$ 18.7 bn in the "Directed Portfolio" and US$ 8.8 bn in the Discretionary Portfolio.

The NTMA Act 2014 was written in a clear manner to avoid the pitfalls of NPRF and to ensure the long-term survival of the ISIF, which was set up with a broad mission of supporting "sectors of strategic significance to the future of the Irish economy". The act sets some conditions that must be met before any withdrawal:

- The Minister may not direct NTMA to make any payment to the Exchequer from ISIF **before 2025**;
- The payment in any year shall not exceed **4% of the value of ISIF's assets** in the year prior;
- In case of sale of the directed assets, ISIF will not pay to the Exchequer **over the proceeds** of such sale.

Figure 13: Ireland's ISIF Structure and Portfolio



Source: ISIF website and Global SWF analysis

ISIF's legitimacy and resilience to crises was put to test in 2020 at the beginning of Covid-19. On May 2, 2020, the fund announced the creation of the Pandemic Stabilisation and Recovery Fund (PSRF) to focus on the recovery of the Irish economy and businesses. The liquidity for the sub-fund was to be provided by the global portfolio, with a maximum of EUR 2 bn. As of December 2020, only 20% of that maximum had been used.

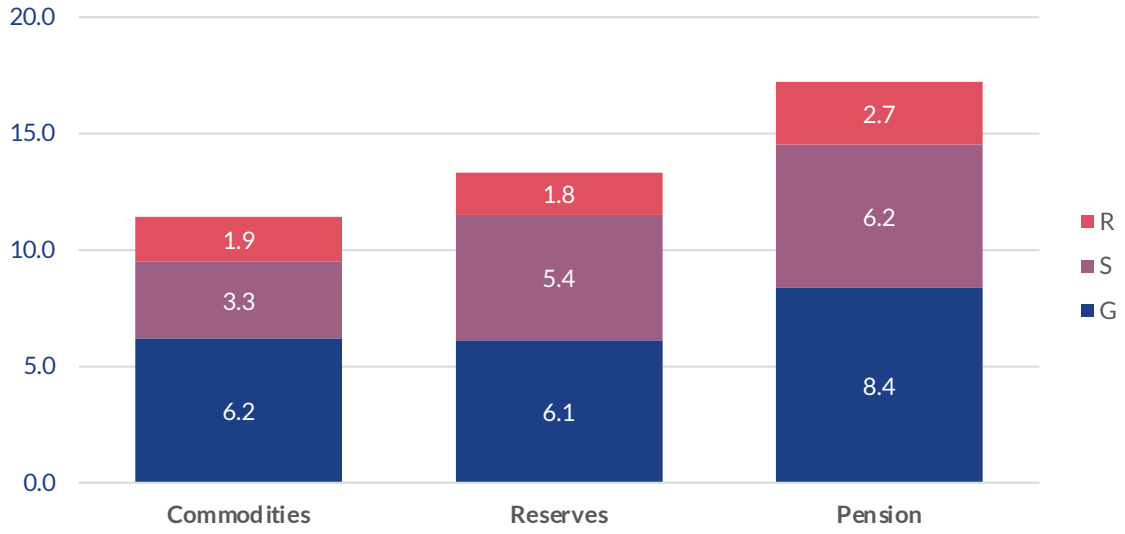
"One of the major benefits available to ISIF is having a clear and stable mandate that is enshrined in legislation. This underpins ISIF's long-term investment horizon and ensures robust governance. The importance of this benefit was demonstrated when ISIF was able to respond quickly to the pandemic, by pivoting within its mandate to establish the EUR 2 bn PSRF. This was a major statement of intent by ISIF, which in turn injected confidence into Irish businesses at a critical point for the wider economy. As we emerge from the pandemic, ISIF has adjusted its focus accordingly by returning to its prevailing thematic approach of making commercial investments with a positive economic impact."

Nick Ashmore, Director of the Ireland Strategic Investment Fund

6. GSR results by other groupings

Per source of wealth: As highlighted before in this report, pension funds are much better run than sovereign funds when it comes to governance, sustainability, and resilience. Within SWFs, those sourced from commodity earnings (mostly oil and gas) score better in transparency, accountability and legitimacy, while those sourced from foreign exchange reserves are generally more responsible investors.

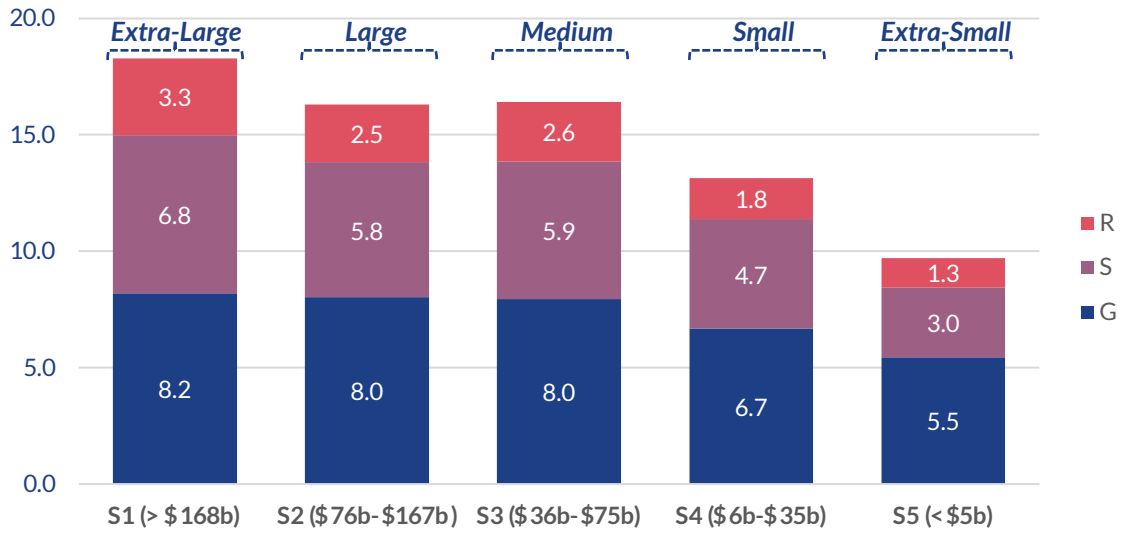
Figure 14: GSR score per source of wealth



Source: Global SWF's GSR Scoreboard 2022

Per size: We have previously found that the largest funds are not necessarily the most successful in terms of financial returns, but when it comes to GSR, size ensures robustness: the 40 extra-large funds, with AuM over US$ 168 bn perform better than the rest, especially around resilience. The large and medium funds perform similarly well, while those below US$ 35 bn in AuM fail the test in terms of sustainability and long-term survival.

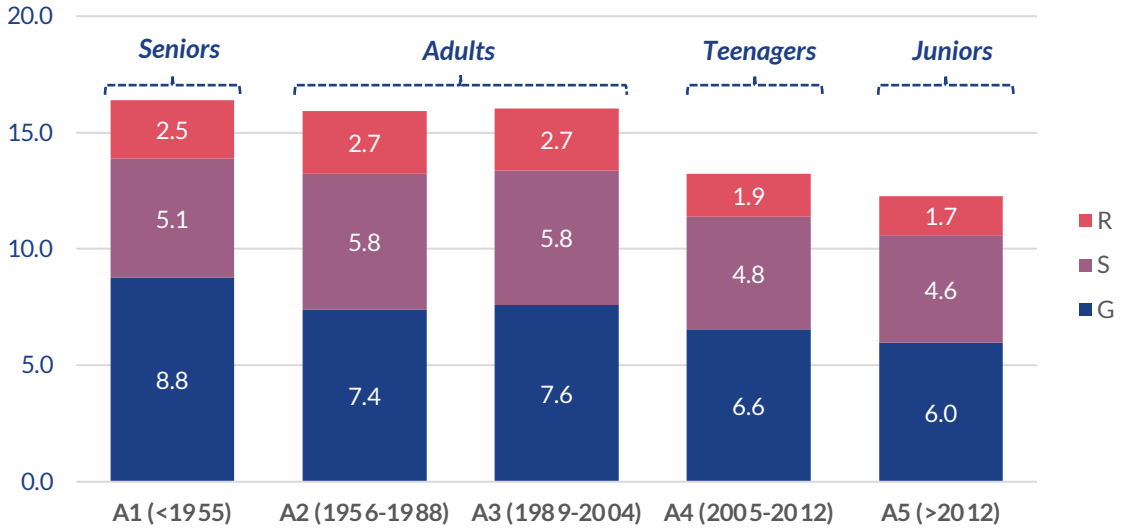
Figure 15: GSR score per size of fund



Source: Global SWF's GSR Scoreboard 2022

Per age: The oldest group of pension funds, which we can call senior funds aged over 67 years, present the best performance around governance. The adult funds with ages between 18 and 66 have the best sustainability and resilience scores. The teenager funds have almost passed the "G" and "S" exams by now but need more work on legitimacy, while the junior funds under 10 years are still finding their feet.

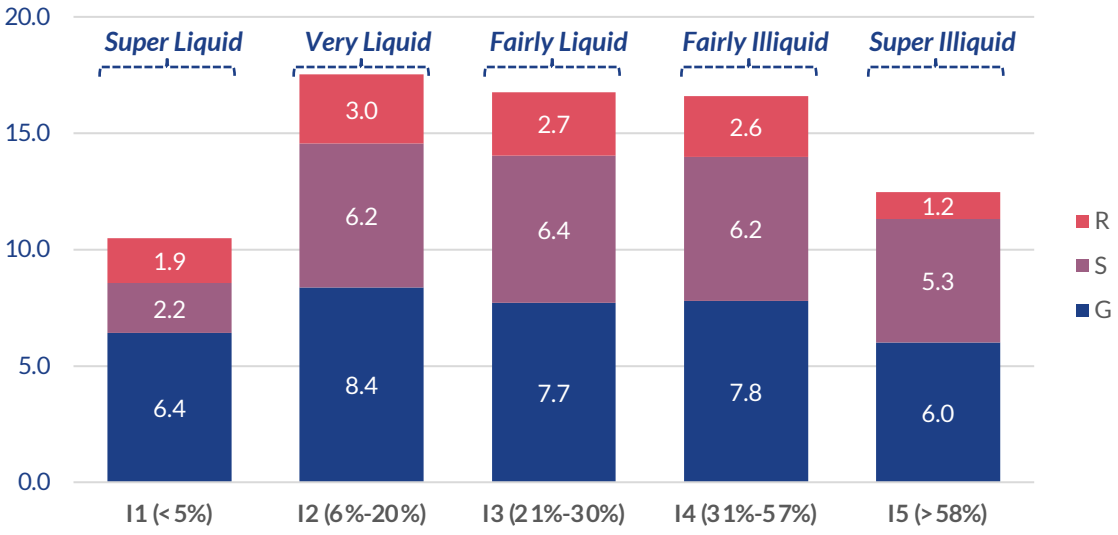
Figure 16: GSR score per age of fund



Source: Global SWF's GSR Scoreboard 2022

Per illiquidity: As in previous years, we demonstrate that too much liquidity or illiquidity is not good. "Super liquid" funds lack progress on responsible investment and resilience, while those that are "super illiquid" address sustainability but not legitimacy issues. The SOIs with the best practices GSR-wise are those that have invested between 80% and 94% in public markets, and between 6% and 20% in private markets.

Figure 17: GSR score per illiquidity of fund



Source: Global SWF's GSR Scoreboard 2022

Appendix 1: Top 100 SWFs

#	SWF	Country	AuM ($b)	GSR (%)
1	Temasek	SG	283	96%
2	Future Fund	AU	187	96%
3	NZ Super Fund	NZ	39	96%
4	ISIF	IE	16	96%
5	NBIM	NO	1,362	88%
6	HKMA EF	HK	587	88%
7	Bpifrance	FR	51	88%
8	FTF	NO	40	88%
9	Mubadala	AE	284	84%
10	KIC	KR	205	84%
11	KENFO	DE	22	84%
12	NSIA	NG	4	84%
13	FAP	PA	1	84%
14	FSDEA	AO	3	80%
15	COFIDES	ES	1	80%
16	SOFAZ	AZ	45	76%
17	Dubai World	AE	42	76%
18	PNB	MY	80	72%
19	Samruk Kazyna	KZ	69	72%
20	NIIF	IN	4	72%
21	CIC	CN	1,222	68%
22	Alaska PFC	US	81	68%
23	UTIMCO	US	68	68%
24	VFMC	AU	56	68%
25	Texas PSF	US	56	68%
26	WYO	US	25	68%
27	BBB IP	UK	4	68%
28	QIC	AU	69	64%
29	Khazanah	MY	31	64%
30	ND RIO	US	20	64%
31	Nauru Trust Fund	NR	0.2	64%
32	GIC	SG	799	60%
33	PIF	SA	620	60%
34	TCorp	AU	80	60%
35	LIA	LY	67	60%
36	New Mexico SIC	US	36	60%
37	INA	ID	26	60%
38	Baiterek	KZ	9	60%
39	HCAP	GR	7	60%
40	CDC TN	TN	3	60%
41	Agaciro Fund	RW	0.2	60%
42	ADIA	AE	829	56%
43	QIA	QA	445	56%
44	Chile (ESSF+PRF)	CL	10	56%
45	CDP Equity	IT	5	56%
46	FONSIS	SN	0.1	56%
47	ICD	AE	300	52%
48	NDFI	IR	139	52%
49	Mumtalakat	BH	18	52%
50	SK CIC	CA	17	52%
51	Solidium Oy	FI	10	52%
52	SFPI / FPIM	BE	2	52%
53	KIA	KW	693	48%
54	FGIS	GA	2	48%
55	Palestine	PS	1	48%
56	TVF	TR	22	44%
57	TL PF	TL	19	44%
58	T&T HSF	TT	6	44%
59	Alabama	US	4	44%
60	NRF	GY	0.1	44%
61	NDF	SA	93	40%
62	CADF	CN	10	40%
63	FAE+FAEP	CO	3	40%
64	GHF+GSF	GH	1	40%
65	RERF	KI	1	40%
66	NBK (NOF+NIC)	KZ	58	36%
67	Dubai Holding	AE	35	36%
68	FEIP+FMPED	MX	4	36%
69	SCIC	VN	2	36%
70	Ithmar Capital	MA	2	36%
71	NSSF	CN	452	32%
72	ADQ	AE	108	32%
73	OIA	OM	29	32%
74	TSFE	EG	11	32%
75	ANIF	AM	1	32%
76	FHRIF	AU	1	32%
77	RDIF	RU	28	28%
78	AIH	AZ	22	28%
79	EMGL	MN	4	28%
80	SAM	AE	2	28%
81	FINPRO	BO	0.4	28%
82	FSD	DJ	0.2	28%
83	EIA	AE	86	20%
84	UFRD	UZ	23	20%
85	Texas ESF	US	10	20%
86	Pula Fund	BW	4	20%
87	NWF	RU	155	16%
88	FSGIP	CV	0.1	16%
89	SAFE IC	CN	980	12%
90	FRC	MC	6	12%
91	EIH	ET	2	12%
92	NIF	CY	1	12%
93	FEF	PE	0.000	12%
94	BIA	BN	55	8%
95	KWAN	MY	3	8%
96	FHF	MN	0.1	8%
97	NSF	TW	0.00000	8%
98	BIDF	BD	2	4%
99	SFT	TM	1	4%
100	FSF	MN	0.1	0%
	Other SWFs	*69*	*12*	-
	Third-party capital	-	**-57**	-
	Total SWFs	**169**	**11,280**	**49%**

Source: Global SWF Ranking https://globalswf.com/ranking
Top 100 SWFs based on size, investments & market interest
AuM refers to latest figure if available, estimation otherwise

Top 100 PPFs

#	PPF	Country	AuM ($b)	GSR (%)
1	CPP	CA	432	96%
2	PGGM	NL	332	96%
3	CDPQ	CA	329	96%
4	BCI	CA	158	96%
5	GPIF	JP	1,733	92%
6	APG	NL	720	92%
7	AP1-7	SE	325	92%
8	CalSTRS	US	320	92%
9	OTPP	CA	190	92%
10	AIMCo	CA	108	92%
11	KLP	NO	102	92%
12	PensionDanmark	DK	50	92%
13	CBUS	AU	49	92%
14	FDC	LU	28	92%
15	NYSCRF	US	280	88%
16	UC Investments	US	168	88%
17	PSP	CA	162	88%
18	Aware	AU	111	88%
19	BCPP	UK	77	88%
20	REST	AU	49	88%
21	FRR	FR	32	88%
22	OPTrust	CA	20	88%
23	Bouwinvest	NL	17	88%
24	NPS	KR	757	84%
25	CalPERS	US	482	84%
26	KWSP	MY	237	84%
27	AustralianSuper	AU	189	84%
28	ATP	DK	144	84%
29	HOOPP	CA	90	84%
30	UniSuper	AU	76	84%
31	KEVA	FI	76	84%
32	COPERA	US	62	84%
33	PKA	DK	56	84%
34	MN	NL	208	80%
35	PIC	ZA	157	80%
36	OMERS	CA	95	80%
37	IMCO	CA	57	80%
38	SamPension	DK	56	80%
39	BVK Zurich	CH	45	80%
40	KTCU	KR	42	80%
41	CDC	FR	181	76%
42	ART	AU	168	76%
43	BVK	DE	120	76%
44	LACERA	US	73	76%
45	CSC	AU	54	76%
46	HESTA	AU	48	76%
47	GPF	TH	33	76%
48	Texas TRS	US	202	72%
49	WSIB	US	181	72%
50	SWIB	US	166	72%
51	NYS TRS	US	148	72%
52	MSBI	US	129	72%
53	Pooled Super	AU	56	72%
54	NYC Compt	US	275	68%
55	PUBLICA	CH	48	68%
56	PREVI	BR	45	68%
57	VER	FI	27	68%
58	SBA Florida	US	260	64%
59	MPFA	HK	150	64%
60	Oregon PERF	US	99	64%
61	BVV	DE	39	64%
62	CDG	MA	33	64%
63	Petros	BR	19	64%
64	Ohio PERS	US	114	60%
65	Virginia RS	US	104	60%
66	NJ DoI	US	99	60%
67	Chikyoren	JP	96	60%
68	Illinois STRS	US	64	60%
69	UAPF	KZ	31	60%
70	POBA	KR	15	60%
71	FRTIB	US	795	56%
72	EPFO	IN	215	56%
73	PIFSS	KW	134	56%
74	Georgia TRS	US	102	56%
75	NLGPS	UK	73	56%
76	Penn PSERS	US	73	56%
77	Compenswiss	CH	45	56%
78	KWAP	MY	37	56%
79	OCERS	US	22	56%
80	CPF	SG	374	52%
81	BLF	TW	202	52%
82	NCRS	US	121	52%
83	PFA	JP	113	52%
84	Ohio STRS	US	98	52%
85	Michigan ORS	US	95	52%
86	NPST	IN	76	52%
87	SSO	TH	71	52%
88	GOSI	SA	250	48%
89	MassPRIM	US	101	48%
90	GSIS	PH	30	44%
91	Taiwan PSPF	TW	26	44%
92	Amitim	IL	122	40%
93	FGS	AR	51	36%
94	ESSS / BPJS	ID	35	36%
95	JMAAPST	JP	49	32%
96	PMAC	JP	26	32%
97	Kokkyoren	JP	71	28%
98	ADPF	AE	25	28%
99	Aramco PF	SA	21	12%
100	SERAMA	JP	51	8%
	*Other PPFs **	*178*	*7,189*	-
	Total PPFs	**278**	**22,390**	**69%**

Source: Global SWF Ranking https://globalswf.com/ranking
Top 100 PPFs based on size, investments & market interest
AuM refers to latest figure if available, estimation otherwise

** Others include US Federal funds OASDI, MRF and CSRDF*

Appendix 2: 2022 GSR Scoring Matrix

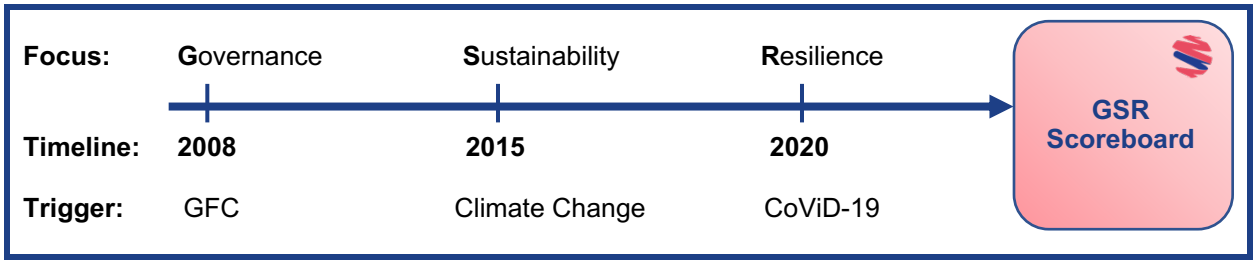
		Governance – 10 elements										G	Sustainability – 10 elements										S	Resilience – 5 elements					R	GSR	GSR	Diff
Fund		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	(10)	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20	(10)	#21	#22	#23	#24	#25	(5)	(25)	(%)	2021
ADIA	AE	■	■	■	■	■	■					6	■						■	■		■	4	■	■		■		4	14	56%	12%
ADPF	AE	■	■		■		■					4							■	■			2				■		1	7	28%	n.a.
ADQ	AE	■		■	■	■	■	■	■	■	■	2	■		■				■	■	■	■	6						0	8	32%	16%
Agaciro	RW	■	■	■	■	■	■	■	■	■	■	9			■				■	■	■		4			■			2	15	60%	8%
AIH	AZ	■	■		■	■	■	■	■	■	■	4			■				■	■	■		3						0	7	28%	n.a.
AIMCo	CA	■		■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	5	23	92%	0%
Alabama	US	■	■		■	■	■	■	■	■	■	7							■	■			1		■				3	11	44%	n.a.
Amitim	IL	■	■		■	■	■	■	■	■	■	8							■	■	■		1		■				1	10	40%	n.a.
ANIF	AM	■		■	■		■	■	■	■	■	3			■				■	■	■	■	5						0	8	32%	n.a.
AP1-7	SE	■	■	■	■	■	■	■	■	■	■	10	■	■		■	■	■	■	■	■	■	9	■	■		■	■	4	23	92%	8%
APF	SA	■	■		■	■	■	■	■	■	■	3											0						0	3	12%	n.a.
APFC	US	■	■	■	■	■	■	■	■	■	■	9	■						■	■	■	■	4	■	■	■			4	17	68%	0%
APG	NL	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	5	23	92%	12%
ART	AU	■	■		■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	4	19	76%	n.a.
ATP	DK	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	4	21	84%	0%
AusSuper	AU	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	4	21	84%	4%
Aware	AU	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	4	22	88%	n.a.
Baiterek	KZ	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■		6	■	■	■	■	■	1	15	60%	n.a.
BBB IP	UK	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	2	17	68%	n.a.
BCI	CA	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	5	24	96%	8%
BCPP	UK	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	3	22	88%	n.a.
BIA	BN	■					■					2											0						0	2	8%	4%
BIDF	BD	■										1											0						0	1	4%	n.a.
BLF	TW	■	■	■	■	■	■		■	■	■	9	■							■			2	■	■				2	13	52%	-4%
Bouw.	NL	■	■		■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	10	■	■		■	■	4	22	88%	n.a.
Bpifrance	FR	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	10	■	■		■	■	3	22	88%	4%
BVK	DE	■	■	■	■	■	■		■	■	■	9	■	■		■		■	■	■	■	■	8		■			■	2	19	76%	n.a.
BVKZ	CH	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■		■	■	■	■	■	8		■	■		■	3	20	80%	n.a.
BVV	DE	■	■		■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	5	■	■	■		■	3	16	64%	n.a.
CADF	CN	■	■	■	■	■	■	■	■	■	■	4		■	■	■	■	■	■	■	■		5	■	■	■			1	10	40%	16%
CalPERS	US	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■		3	21	84%	4%
CalSTRS	US	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■		3	23	92%	8%
CBUS	AU	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	4	23	92%	n.a.
CDC	FR	■	■		■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	9				■	■	2	19	76%	n.a.
CDC TN	TN	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	6				■	■	1	15	60%	n.a.
CDG	MA	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	■	■	■	■	■	9				■	■	1	16	64%	n.a.
CDP Eq	IT	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■		6	■	■		■	■	1	14	56%	8%
CDPQ	CA	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	4	24	96%	0%
Chikyoren	JP	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	3	15	60%	n.a.
CIC	CN	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	3	17	68%	0%
COFIDES	ES	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	10	■	■		■	■	2	20	80%	4%
Compens.	CH	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■		3	■	■	■	■	■	4	14	56%	n.a.
COPERA	US	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	3	21	84%	n.a.
CPF	SG	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	0	■	■	■	■	■	4	13	52%	n.a.
CPP	CA	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	5	24	96%	8%
CSC	AU	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	4	19	76%	n.a.
DH	AE	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	0	9	36%	12%
DW+DPW	AE	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	2	19	76%	24%
EIA	AE	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	■	■	■	■	■	2	■	■	■	■	■	0	5	20%	12%
EIH	ET	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	■	■	■	■	■	0	■	■	■	■	■	0	3	12%	n.a.
EMGL	MN	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	■	■	■	■	■	4	■	■	■	■	■	0	7	28%	n.a.
EPFO	IN	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	4	■	■	■	■	■	1	14	56%	n.a.
ESSF+PRF	CL	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	1	■	■	■	■	■	4	14	56%	0%
ESSS	ID	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	1	9	36%	n.a.
FAE+FAEP	CO	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	0	■	■	■	■	■	2	10	40%	n.a.
FAP	PA	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	5	21	84%	12%
FDC	LU	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	4	23	92%	n.a.
FEF	PE	■		■	■	■	■	■	■	■	■	3											0						0	3	12%	n.a.
FEIP+FMP	MX	■	■	■	■	■	■	■	■	■	■	8											0		■				1	9	36%	-8%
FGIS	GA	■	■	■	■	■	■	■	■	■	■	7			■			■	■	■	■		5						0	12	48%	32%
FGS	AR	■	■	■	■	■	■	■	■	■	■	6							■	■	■		2		■				1	9	36%	n.a.
FHF	MN	■	■	■	■	■	■	■	■	■	■	2											0						0	2	8%	-4%
FHRIF	AU	■	■	■	■	■	■	■	■	■	■	4	■		■					■	■		3	■					1	8	32%	n.a.
FINPRO	BW	■	■	■	■	■	■	■	■	■	■	4			■				■	■	■		3						0	7	28%	n.a.
FONSIS	SN	■	■	■	■	■	■	■	■	■	■	6	■		■			■	■	■	■	■	7			■			1	14	56%	24%
FRC	MC	■	■	■	■	■	■	■	■	■	■	2							■	■	■		1						0	3	12%	n.a.
FRR	FR	■	■	■	■	■	■	■	■	■	■	10		■		■	■	■	■	■	■	■	8	■	■		■	■	4	22	88%	8%
FRTIB	US	■	■	■	■	■	■	■	■	■	■	8							■	■	■	■	2	■	■		■	■	4	14	56%	n.a.
FSD	DJ	■	■	■	■	■	■	■	■	■	■	3							■	■	■	■	4						0	7	28%	4%
FSDEA	AO	■	■	■	■	■	■	■	■	■	■	10	■		■				■	■	■	■	5	■	■	■	■	■	5	20	80%	40%
FSF	MN											0											0						0	0	0%	n.a.
FSGIP	CV	■							■			2								■	■		2						0	4	16%	n.a.
FTF	NO	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	5	22	88%	n.a.
FutFund	AU	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	5	24	96%	-4%
GATRS	US	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	4		■		■		1	14	56%	n.a.
GHF+GSF	GH	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	0	■		■		■	3	10	40%	0%
GIC	SG	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	4	15	60%	0%
GOSI	SA	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■		2		■	■	■		2	12	48%	n.a.
GPF	TH	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	2	19	76%	n.a.
GPIF	JP	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	9	■	■	■		■	4	23	92%	8%
GSIS	PH	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	■	■	■	■		5	■	■	■	■	■	1	11	44%	n.a.
HCAP	GR	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	2	15	60%	n.a.
HESTA	AU	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	3	19	76%	n.a.
HKMA EF	HK	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	5	22	88%	0%
HOOPP	CA	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	5	21	84%	16%
HostPlus	AU	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	3	18	72%	n.a.
HSF	TT	■	■	■	■	■	■	■	■	■	■	7											0	■	■	■	■	■	4	11	44%	0%
ICD	AE	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	4	■	■	■	■	■	2	13	52%	4%
ILSTRS	US	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	4	■	■	■	■	■	2	15	60%	n.a.
IMCO	CA	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	4	20	80%	12%
INA	ID	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	1	15	60%	28%
ISIF	IE	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	5	24	96%	20%
Ithmar	MA	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	■	■	■	■		4						0	9	36%	12%
JMAAPST	JP	■	■	■	■	■	■	■	■	■	■	6											1		■				1	8	32%	n.a.
KENFO	DE	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	3	21	84%	n.a.
KEVA	FI	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	3	21	84%	20%
Khazanah	MY	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	3	16	64%	8%
KIA	KW	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	2	12	48%	16%
KIC	KR	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	5	21	84%	0%
KLP	NO	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	4	23	92%	n.a.

		Governance – 10 elements										G	Sustainability – 10 elements										S	Resilience – 5 elements					R	GSR	GSR	Diff
Fund		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	(10)	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20	(10)	#21	#22	#23	#24	#25	(5)	(25)	(%)	2021
Kokkyoren	JP	■			■		■	■	■		■	6									■		1						0	7	28%	n.a.
KTCU	KR	■	■		■		■	■	■		■	8	■		■	■	■	■	■	■	■	■	9	■	■			■	3	20	80%	n.a.
KWAN	MY	■			■		■	■	■			2											0						0	2	8%	n.a.
KWAP	MY	■	■		■	■	■		■			5	■	■				■	■	■	■	■	6	■	■		■	■	3	14	56%	-8%
KWSP	MY	■	■		■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	4	21	84%	n.a.
LACERA	US	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	2	19	76%	n.a.
LIA	LY	■	■		■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	3	15	60%	8%
MassPRIM	US	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	1	■	■	■	■	■	1	12	48%	n.a.
MIORS	US	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	2	■	■	■	■	■	1	13	52%	n.a.
MN	NL	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	3	20	80%	n.a.
MPFA	HK	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	4	16	64%	n.a.
MSBI	US	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	1	18	72%	n.a.
Mubadala	AE	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	4	21	84%	28%
Mumtalakat	BH	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	1	13	52%	0%
Nauru	NR	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	4	16	64%	4%
NBIM	NO	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	5	22	88%	-8%
NCRS	US	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	1	13	52%	n.a.
ND RIO	US	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	3	16	64%	4%
NDF	SA	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	1	10	40%	n.a.
NDFI	IR	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	4	■	■	■	■	■	1	13	52%	20%
NIF	CY	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	■	■	■	■	■	0	■	■	■	■	■	0	3	12%	0%
NIIF	IN	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	2	18	72%	4%
NJ DoI	US	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	1	15	60%	n.a.
NLGPS	UK	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	1	14	56%	n.a.
NMSIC	US	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	1	15	60%	-4%
NOF+NIC	KZ	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	1	■	■	■	■	■	1	9	36%	4%
NPS	KR	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	4	21	84%	-8%
NPST	IN	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	2	13	52%	n.a.
NRF	GY	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	0	■	■	■	■	■	2	11	44%	8%
NSF	TW	■	■	■	■	■	■	■	■	■	■	1	■	■	■	■	■	■	■	■	■	■	1	■	■	■	■	■	0	2	8%	n.a.
NSIA	NG	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	5	21	84%	4%
NSSF	CN	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	■	■	■	■	■	2	■	■	■	■	■	0	8	32%	0%
NWF	RU	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	■	■	■	■	■	1	■	■	■	■	■	0	4	16%	-4%
NYCC	US	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	2	17	68%	n.a.
NYSCRF	US	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	2	22	88%	4%
NYSTRS	US	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	2	18	72%	n.a.
NZSF	NZ	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	5	24	96%	0%
OCERS	US	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	1	14	56%	n.a.
OIA	OM	■	■	■	■	■	■	■	■	■	■	2	■	■	■	■	■	■	■	■	■	■	4	■	■	■	■	■	2	8	32%	0%
OMERS	CA	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	3	20	80%	0%
OPERF	US	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	3	16	64%	n.a.
OPERS	US	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	3	15	60%	n.a.
OPTrust	CA	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	5	22	88%	16%
OSTRS	US	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	1	13	52%	n.a.
OTPP	CA	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	5	23	92%	4%
Palestine	PS	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	0	12	48%	0%
PD	DK	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	4	23	92%	8%
Petros	BR	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	4	■	■	■	■	■	2	16	64%	n.a.
PFA	JP	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	1	13	52%	n.a.
PGGM	NL	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	5	24	96%	8%
PIC	ZA	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	4	20	80%	0%
PIF	SA	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	2	15	60%	20%
PIFSS	KW	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	1	14	56%	8%
PKA	DK	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	2	21	84%	n.a.
PMAC	JP	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	1	■	■	■	■	■	0	8	32%	n.a.
PNB	MY	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	3	18	72%	n.a.
POBA	KR	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	3	15	60%	n.a.
PREVI	BR	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	2	17	68%	n.a.
PSERS	US	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	1	14	56%	n.a.
PSP	CA	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	4	22	88%	4%
PSPF	TW	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	2	■	■	■	■	■	1	11	44%	n.a.
PUBLICA	CH	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	2	17	68%	n.a.
Pula	BW	■	■	■	■	■	■	■	■	■	■	4	■	■	■	■	■	■	■	■	■	■	0	■	■	■	■	■	1	5	20%	-12%
QIA	QA	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	2	14	56%	32%
QIC	AU	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	3	16	64%	-4%
RDIF	RU	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	■	■	■	■	■	4	■	■	■	■	■	0	7	28%	-8%
RERF	KI	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	0	■	■	■	■	■	3	10	40%	n.a.
REST	AU	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	3	22	88%	n.a.
SAFE IC	CN	■	■	■	■	■	■	■	■	■	■	2	■	■	■	■	■	■	■	■	■	■	1	■	■	■	■	■	0	3	12%	0%
SAM	AE	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	■	■	■	■	■	4	■	■	■	■	■	0	7	28%	n.a.
SamPension	DK	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	3	20	80%	n.a.
SBA Fla	US	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	3	16	64%	-4%
SCIC	VN	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	■	■	■	■	■	4	■	■	■	■	■	0	9	36%	0%
SERAMA	JP	■	■	■	■	■	■	■	■	■	■	2	■	■	■	■	■	■	■	■	■	■	0	■	■	■	■	■	0	2	8%	n.a.
SFPI	BE	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	0	13	52%	n.a.
SFT	TM	■	■	■	■	■	■	■	■	■	■	1	■	■	■	■	■	■	■	■	■	■	0	■	■	■	■	■	0	1	4%	n.a.
SK	KZ	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	1	18	72%	0%
SK CIC	CA	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	4	■	■	■	■	■	1	13	52%	n.a.
SOFAZ	AZ	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	3	19	76%	12%
Solidium	FI	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	1	13	52%	n.a.
SSO	TH	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	2	13	52%	n.a.
SWIB	US	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	5	18	72%	n.a.
TCorp	AU	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	3	15	60%	12%
Temasek	SG	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	5	24	96%	4%
Texas ESF	US	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	■	■	■	■	■	1	■	■	■	■	■	1	5	20%	n.a.
Texas PSF	US	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	5	17	68%	4%
Texas TRS	US	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	3	18	72%	4%
TLPF	TL	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	0	■	■	■	■	■	2	11	44%	-8%
TSFE	EG	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	■	■	■	■	■	4	■	■	■	■	■	1	8	32%	8%
TVF	TR	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	■	■	■	■	■	5	■	■	■	■	■	0	11	44%	8%
UAPF	KZ	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	3	15	60%	n.a.
UC Inv	US	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	4	22	88%	n.a.
UFRD	UZ	■	■	■	■	■	■	■	■	■	■	1	■	■	■	■	■	■	■	■	■	■	4	■	■	■	■	■	0	5	20%	-12%
UniSuper	AU	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	3	21	84%	n.a.
UTIMCO	US	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	5	17	68%	n.a.
VARS	US	■	■	■	■	■	■	■	■	■	■	9	■	■	■	■	■	■	■	■	■	■	4	■	■	■	■	■	2	15	60%	n.a.
VER	FI	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	7	■	■	■	■	■	2	17	68%	12%
VFMC	AU	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	6	■	■	■	■	■	3	17	68%	-4%
WSIB	US	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	■	■	■	■	■	8	■	■	■	■	■	2	18	72%	n.a.
WYO	US	■	■	■	■	■	■	■	■	■	■	10	■	■	■	■	■	■	■	■	■	■	3	■	■	■	■	■	4	17	68%	8%
		100%	69%	48%	87%	85%	53%	69%	86%	66%	65%	7.3	64%	43%	43%	34%	31%	43%	59%	78%	79%	51%	5.2	62%	63%	22%	44%	38%	2.3	14.8	59%	2%

Appendix 3. Methodology

Global SWF launched the GSR Scoreboard in 2020 as a new market reference for the governance, sustainability and resilience efforts undertaken (or the lack thereof) by State-Owned Investors. A series of events in the global markets over the past 15 years has stimulated these discussions and a switch in focus; however, we believe that these three themes are not mutually exclusive and must be considered jointly.

Figure 18: Timeline and triggers for the GSR Scoreboard



Source: Global SWF's GSR Scoreboard

In recent years, academic experts and practitioners have attempted to quantify the intentions and actions of asset owners on these fronts. Mr. Edwin Truman, now a senior fellow at HKS and considered by many as the "father of the SWF industry", developed a scoreboard measuring the transparency and accountability of state investors that is widely accepted and has been published since 2007. In 2021, Mr. Truman published the latest update of his scoreboard, finding a strong correlation between his results and the 2020 GSR Scoreboard[1].

Global SWF's tool is, by design and unlike other systems, rigorous (published every July 1 based on public information only), quantitative (based on 25 points) and, most importantly, independent (funds do not pay to be assessed). It serves as a reality check for asset owners, enabling them to compare themselves with peers and improve their practices, and it allows other market participants to look at their partners objectively. It is only through such comprehensive and routine analysis that we can identify the virtues – and vices – of SOIs.

The Rating System:

The GSR Scoreboard is comprised of 25 different elements, 10 of them related to Governance issues, 10 of them related to Sustainability issues, and five related to Resilience issues. These questions are answered binarily (Yes / No) with equal weight based on publicly available information only, and the results are then converted into a percentage scale for each of the funds. The study is applied to a universe of the world's Top 100 SWFs and Top 100 PPFs ("Global SWF's Top 200"), generating 5,000 data points, and repeated annually.

Table 12. GSR Scoreboard Elements

Governance – 10 elements	Sustainability – 10 elements	Resilience – 5 elements
1. Mission & vision	11. Ethical standards & policies	21. Risk Management policy
2. Deposit & withdrawal rules	12. Stewardship team in place	22. Strategic asset allocation
3. External manager reputation	13. Economic mission	23. Policy for withdrawals
4. Internal & Ext. Governance	14. Economic impact & measure	24. BCM/Crisis teams in place
5. Investment strategy / criteria	15. ESG annual report	25. Speed & Discipline
6. Structure and operational data	16. Alignment with SDGs	
7. Annual accounts audited	17. Partnership & memberships	
8. AuM figure public	18. Emerging markets/managers	
9. Details of investment portfolio	19. Role in domestic economy	
10. Annual vs LT return	20. ESG risk management	

Source: Global SWF's GSR Scoreboard

[1] *See Marie, Mazarei and Truman (2021), "Sovereign Wealth Funds are growing more slowly, and Governance issues remain", PIIE (link)*

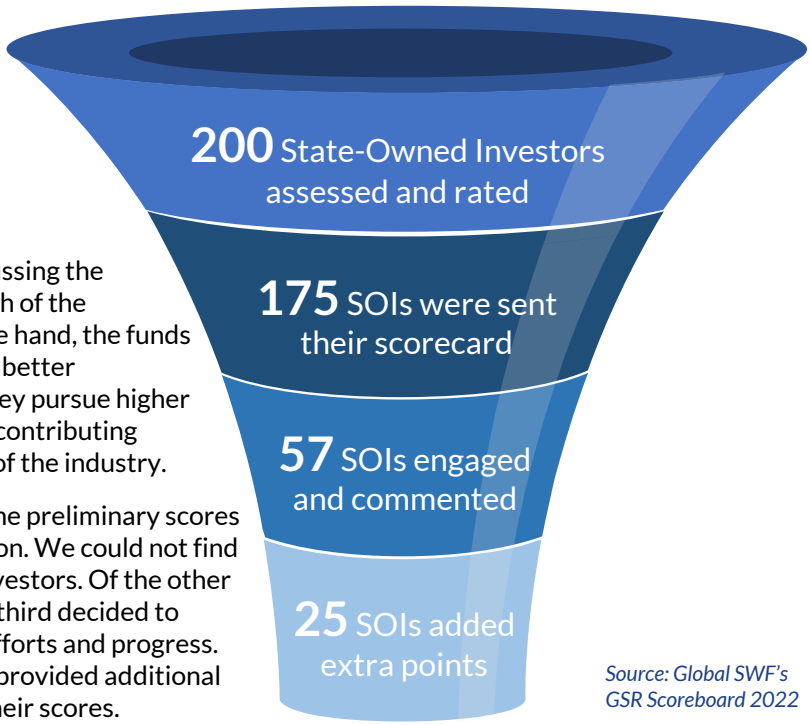
Response and Acceptance by SOIs:

One of the main changes we have introduced to our methodology this year is around our dialogue with the sovereign investors themselves. This is something we avoided in 2020 and 2021, as the assessment is based only on publicly available information, and we did not want to be influenced or to be sent any private documentation.

However, we realized that discussing the system and what we were seeking in each of the elements would be a win-win. On the one hand, the funds would follow best practices and become better governed, sustainable and resilient as they pursue higher scores. On the other hand, we would be contributing with our two cents to the advancement of the industry.

We therefore decided to send the preliminary scores to all SOIs a month prior to the publication. We could not find contact information for 25 of the 200 investors. Of the other 175 funds that were sent their scores, a third decided to engage, comment and/or discuss their efforts and progress. As part of that dialogue, 25 of the funds provided additional information and were able to increase their scores.

Figure 19: Interaction with SOIs as part of the GSR 2022



Source: Global SWF's GSR Scoreboard 2022

Some executives insisted in debating whether or not their employer fell under the category of "State-Owned Investor", failing to see the scoreboard as a chance of improving as, simply, an investment organization. Others did not respond – among them, the very large and important **GIC**, **GPIF**, **KIA** and **NPS**.

Yet, we had a positive experience interacting with more than 50 SOIs, developing closer relationships, discovering information that could have been missed in the collation of the 5,000 individual datapoints, and helping them publish additional information. Since mid-May, we have held in-person meetings in Abu Dhabi, Doha, Riyadh and New York, and virtual calls with the Americas (Toronto, Sacramento, Panamá and Bogotá), Europe (London, Leeds, Berlin and Madrid), the Middle East (Cairo, Manama, Ramallah and Tehran), Sub-Saharan Africa (Kigali, Libreville, Luanda and Addis Ababa) and Asia (Beijing and Ulaanbaatar).

One of the most fruitful exchanges we have had has been with the National Development Fund of Iran (**NDFI**), which received poor scores in the 2020 and 2021 GSR Scoreboards. Following our participation in the fund's second annual forum, we steered **NDFI** towards improved provision of information on its English site, including the Articles of Association (which validated Q#2, Q#3 and Q#5), the Risk Management Policy (Q#21), and, most importantly, details of their current AuM (Q#8) and investment portfolio (Q#9). Thanks to those improvements, the Iranian fund's score this year reached 52%, beating the global average for SWFs of 49%.

We invite other State-Owned Investors to reach out to us and to take advantage of this increasingly important tool of analysis, as we keep fine-tuning it and publishing it in the years to come.

The authors of this report would like to thank and acknowledge the contribution of intern **Ms. Tint-Tel May**, an exceptional Masters student of Tufts University hailing from Myanmar, who was quick and diligent in grasping the key concepts of the GSR scoreboard, and was crucial during the data mining stage.

Universe of State-Owned Investors:

Global SWF studies 447 State-Owned Investors ("SOIs"), including Sovereign Wealth Funds ("SWFs") and Public Pension Funds ("PPFs"), which jointly manage US$ 33.7 tn in assets. SOIs are no longer defined simply as government-owned vehicles investing their capital overseas. Today the industry is highly complex, with mixed forms of legal structure, ownership, and portfolios. We define four major groups of SOIs:

- **SWF-Stabilization Funds:** this is the smallest group and yet the most intuitive. They are defined as "rainy-day funds" because they are established as a buffer mechanism that can cover fiscal deficits in times of uncertainty. For this reason, they are usually highly liquid funds that allocate on average 90% of their capital into stocks and bonds. Examples include Azerbaijan's SOFAZ, Botswana's Pula Fund and Chile's ESSF.
- **SWF-Savings Funds:** also known as future generations funds, they face less pressure for short-term liquidity and can afford to invest more aggressively. They allocate on average a 22% to private markets, and with a combined AuM of US$ 5+ tn, they represent some of the largest investors in real estate, infrastructure, and private equity. Examples include Abu Dhabi's ADIA, Norway's NBIM and Singapore's GIC.
- **SWF-Strategic Funds:** these have been the most popular choice among governments in the past decade, as they combine a financial goal with an economic mission, contributing to the domestic development. For this reason, some of them are set up without much "wealth" and seek to catalyze foreign capital and fundraise from other SOIs instead. Examples include Ireland's ISIF, Malaysia's Khazanah and Russia's RDIF.
- **Public Pension Funds (PPFs):** PPFs have gained in significance to such an extent that they are today similar in activity to SWF-Savings Funds, despite the obvious differences in liability profile. Both groups keep similar strategies and asset allocations and can be seen competing for the same stakes in public auctions and private placements around the world. Examples include Canada's CPP, Japan's GPIF and Netherlands' APG.

We are flexible in our definitions, which are driven by market interest. If we are too academic, e.g., using IMF's definition of SWF, we risk leaving out some of the funds that we deem highly interesting, acquisitive and comparable to other SOIs, including India's NIIF, Morocco's Ithmar Capital or Singapore's Temasek.

We also include certain Central Banks ("CBs"), for the portion of the portfolio that is investable, including China's SAFE (Investment Co.), Hong Kong's HKMA (Exchange Fund), and Kazakhstan's NBK (NOF and NIC). We stopped covering SAMA when it changed name to SCB and adopted a less "SWF-like" strategy.

We must bear in mind that certain funds are asset managers that invest on behalf of asset owners, e.g., Canada's AIMCo manages a SWF (AHSTF) and different pension plans; Netherlands' APG invests on behalf of ABP and other pools; and Australia's TCorp manages a SWF (NGF) and several superannuation pools.

Out of the 447 SOIs, we define a Top 200 list, which can be found in Appendix 1 and allows us to focus our efforts on the 100 most active SWFs and the 100 most active PPFs. This sample serves as a fair representation of the heterogenous SOI universe. We have doubled our coverage in less than a year.

All the data is proprietary and comes from public sources or estimated based on our knowledge and insights. Of the Top 200, a few funds do not report their AuM, including Abu Dhabi's ADIA, Qatar's QIA and Singapore's GIC, and we maintain internal models to estimate the size based on allocation and investments.

Latest developments July 2022:

The Top 200 ranking will be soon modified to include the two latest SWFs to be established (Israel's Citizens Fund and Namibia'a Welwitschia Fund), as well as two funds increasingly active in the international arena (Malta Government Investments or MGI, and Ghana Infrastructure Investment Fund or GIIF). In addition, we are monitoring the potential set up of Mozambique's FSM and revival of Algeria's RRF.

Appendix 4: About Us

Global SWF is a financial boutique that was launched in July 2018 to address a perceived lack of thorough coverage of State-Owned Investors (SOIs), including SWFs and PPFs, and to promote a better understanding of, and connectivity into and between global investors. The company leverages unique insights and connections built over many years and functions as a one-stop shop for some of the most common SOI-related services, including:

- **Consulting Services**, helping governments establish or reformulate their investment and strategic funds.
- **Data & Research**, running the most comprehensive platform on SOIs' strategies, portfolios and executives.
- **Education & Events**, organizing closed-door events and workshops for SOIs and other clients.

We firmly believe in the global aspect of our business and have teams, advisors and partners in New York, Boston, Miami, London, Birmingham, Frankfurt, Lagos, Abu Dhabi, Dubai, Singapore, Hong Kong, Beijing, and Melbourne.

Global SWF Team: