HERITAGE AND STABILISATION FUND (HSF)

QUARTERLY INVESTMENT REPORT

JANUARY TO MARCH 2023

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[1] This section includes economic data available as at May 30, 2023.

EXECUTIVE SUMMARY

- The first quarter of 2023 saw the global economy still facing the challenges that dominated 2022, namely, the economic spillovers of the Russian invasion of Ukraine that started in February 2021 and the impact of the synchronised monetary tightening, introduced to address a surge in inflation not seen in the major advanced economies for more than four decades. As a result, economic growth prospects remained fragile but the likelihood of a deep downturn faded over the quarter with signs of moderation in inflation and deceleration in monetary tightening.

- According to the latest IMF World Economic Outlook (WEO) publication (April 2023), global economic growth is expected to decline from 6.3 per cent in 2021 to 3.4 per cent in 2022 to a projected 2.8 per cent in 2023. Moreover, headline inflation, which had been kept below 2 per cent a year in the major advanced economies for several decades, surged to an average of 8.7 per cent in 2022 and is now projected to remain at around 6-7 per cent in 2023 largely because of the decline in commodity prices, mainly oil and gas. The IMF cites several major downside risks to its projections for 2023. Among the risks identified are: (i) the recent financial sector stress, which could potentially expose systemic financial sector weaknesses; (ii) the stubbornly high inflation rate, which reflects the tight labour markets and wage increases both in the US and the Eurozone; and (iii) signs of a prolonged debt ceiling stand-off in the United States.

- Available evidence suggests that the global economic slowdown is most pronounced in the advanced economies. In the US, for instance, official (second) estimate revealed that real GDP growth slowed to an annualised rate of 1.3 per cent in the first quarter of 2023 compared with an expansion of 2.6 per cent in the previous quarter. The 2023 Quarter 1 increase is the weakest pace of expansion since the Quarter 2 of 2022, as rising interest rates negatively affected business investment, inventory accumulation and the housing market. The United Kingdom (UK) real GDP growth was 0.1 per cent in 2023 Quarter 1, similar to the previous quarter. Monthly estimates of real GDP growth revealed that the UK economy grew by 0.5 per cent in January followed by zero growth in February and -0.3 per cent March. Meanwhile, the Eurozone's quarterly economic growth was a modest 0.1 per cent during 2023 Quarter 1, following a -0.1 per cent decline in 2022 Quarter 4.

- The synchronised aggressive monetary stance of the US Federal Reserve and the two large European central banks (United Kingdom and Eurozone) resulted in a moderate reduction in inflation in the last quarter of 2022. Despite further monetary tightening during the quarter, as at the end of March 2023, 12-month increase in the consumer price index was still a sizable 5 per cent in the US, 6.9 per cent in the Eurozone and 10.1 per cent in the UK. During the quarter, the Federal Reserve (Fed) reduced the size of its rate hike to 25 basis points and increased twice over the quarter to bring its target range to 4.75 per cent to 5.00 per cent. The Bank of England (BoE) also raised its bank rate twice to 4.25 per cent and downshifted from a 50 basis points increase in February to a 25 basis points hike in March. Meanwhile, the European Central Bank (ECB) lifted all three key ECB monetary policy rates by 50 basis points twice over the period. This brought the marginal lending rate, overnight lending to banks, to 3.75 per cent.

- The rebound that occurred in global equity markets in the last quarter of 2022 continued in the first quarter of 2023, notwithstanding the slowdown in economic activity and, in the month of March, the steep sell-off within the US and European financial services sectors due to concerns about banking sector stability. The US S&P 500 index advanced 7.48 per cent during the quarter, while other non-US developed stock markets, as represented by the MSCI EAFE index, gained 8.61 per cent. The market buoyancy was apparently driven by the moderating inflation numbers and investors' interpretation that monetary authorities had reached to the top of the interest rate cycle and were now inclined to pause or reverse increases in interest rates for the rest of 2023.

- The positive future outlook on inflation and monetary actions during the quarter also benefitted global bond markets. US Treasury yields were volatile over the period but ended the quarter significantly lower as investors revised downwards their expectations for additional interest rate hikes. Safe haven demand stemming from the banking sector turmoil added to the decline. The 10-year US Treasury yield fell by 0.41 per cent to end the quarter at 3.47 per cent while the 2-year yield decreased by 0.40 per cent to 4.03 per cent. Taking all this into account, the US investment grade bond market, as measured by the Bloomberg Barclays US Aggregate Bond index, earned 2.96 per cent during the quarter.

- During Financial Year (FY) 2022, the surge in oil and gas prices, mainly on account of Russia's invasion of Ukraine, boosted government energy revenues. As a result, the Heritage and Stabilisation Fund (HSF) received a total contribution of roughly USD 346 million for FY 2022. At the time of recept of the contributions (August 2022 and December 2022), the Board assessed the market outlook to be highly uncertain and as such, in order to protect the principal value of the HSF, decided not to allocate the cash contributions to the Fund's investment mandates, holding, instead, the contributions in short-term USD fixed deposits for maturity in April 2023. At its April meeting, the Board, having assessed the market outlook still to be uncertain, took the decision to roll-over the maturing value of the deposits for a further 3-month period. In June, the Board will re-assess market otutlook to determine an appropriate allocation of the contribution, consistent with the approved SAA for the HSF.

- The HSF returned 4.74 per cent for the quarter, with positive contributions from both the fixed income and equity mandates (see Table 1). The fixed income and equity mandates increased by 1.29 per cent and 3.39 per cent, respectively (see Table 2).

- When compared to its Strategic Asset Allocation (SAA) benchmark, which rose by 4.57 per cent, the Fund outperformed by 0.17 per cent (see Table 2 and Appendix 1). Excess returns were driven by the Fund's relative overweight to equities and underweight to fixed income, while external managers' strategies, in aggregate, modestly detracted from performance.

- As at the end of March 2023, the total net asset value of the HSF was **US$5,380.1 million**; approximately US$240.3 million higher than the previous quarter's closing value of US$5,139.7 million.

Table 1
Absolute Quarterly Returns
For the period Jan – Mar 2023
/per cent/

	Absolute Return HSF	**Absolute Return Benchmark**
Composite Portfolio	**4.74**	**4.57**
US Short Duration Fixed Income	1.73	1.82
US Core Domestic Fixed Income	2.90	2.96
US Core Domestic Equity	7.75	7.88
Non-US Core International Equity	9.21	8.87
USD Fixed Deposit	1.15	N/A

Notes: (1) Differences in totals are due to rounding.
(2) Contribution received in FY 2022 is held in short-term USD fixed deposits and remains avalible to be allocated to the Fund's investment mandates.

Table 2
Contributions to Quarterly Returns
For the period Jan – Mar 2023
/per cent/

	3 Months Portfolio Weighted Return to 31-Mar-2023	
	HSF	**Benchmark**
Composite Portfolio	**4.74**	**4.57**
US Short Duration Fixed Income	0.37	0.46
US Core Domestic Fixed Income	0.92	1.20
US Core Domestic Equity	1.67	1.38
Non-US Core International Equity	1.72	1.56
USD Fixed Deposit	0.08	N/A

Notes: (1) Differences in totals are due to rounding.
(2) Contribution received in FY 2022 is held in short-term USD fixed deposits and remains avalible to be allocated to the Fund's investment mandates.

SECTION 1 – INTERNATIONAL ECONOMIC ENVIRONMENT

While fears of a sereve recession abated during the first quarter with evidence that inflation was finally slowing down and resilient service sector activity, global economic prospects remained tenuous. A sharp decline in energy prices alongside the reopening of the Chinese economy boosted overall demand and helped ease supply chain delays. With inflation levels still well above target but moderating, most major central banks further hike monetary policy rates over the quarter but signalled a more cautious stance going forward. Meanwhile, the banking crisis in March compounded an already uncertain outlook and tightened financial conditions even further as credit concerns added to the policy rate increases of central banks. The International Monetary Fund (IMF), in its World Economic Outlook (April 2023), projected 2023 global growth to slow to 2.8 per cent from 3.4 per cent in 2022. At the same time, the forecast for advanced economies improved with 2023 growth estimated at 1.3 per cent, up from 1.2 per cent anticipated at the beginning of the year.

In the US, Gross Domestic Product (GDP) rose at an annualised pace of 1.3 per cent over the three months to March. The expansion reflected increases in consumer spending, exports and fiscal spending while declines in inventory and non-residential fixed investment constrained growth. Business activity accelerated with the S&P Global Composite US Purchasing Managers Index (PMI) increasing to 52.3 points in March from 45.0 points three months earlier. Overall job gains remained solid as robust demand from service-based industries helped to offset layoffs concentrated in the technology and financial services sectors. The unemployment rate was steady at 3.5 per cent and wage growth moderated to 5.1 per cent in March down from 5.4 per cent in December 2022. Household spending rose amid higher earnings and further progress on the inflation front. Pricing pressures trended lower with falling food and energy costs driving inflation down to 5.0 per cent in March from 6.5 per cent at the end of the prior quarter, and well below its high of 9.1 per cent in June 2022.

The UK real GDP increased by 0.1% in first quarter (Jan to Mar) 2023. This follows growth of 0.1% in the previous quarter. Quarter 1 2023 GDP number is 0.5% below its pre-COVID level (Quarter 4 2019). Monthly estimates revealed that GDP fell by 0.3% in March 2023, following an increase of 0.5% in January 2023 and no growth in February 2023. Manufacturing and service sector business surveys reflected an uptick in activity, despite headwinds from inflation and ongoing labour strikes. Progress on the inflation front was slow with consumer price increases remaining in double-digits, rising by 10.1 per cent in March due to a sharp increase in the cost of food. Meanwhile, the jobs market remained tight as companies contended with worker shortages due in part to COVID and Brexit. This helped to lift wages with the average annual earnings over the three months to February advancing 6.6 per cent.

The Eurozone's quarterly economic growth was a modest 0.1 percent during the first quarter of 2023, following a -0.1 per cent decline in the fourth quarter of 2022. While the bloc has avoided a widely feared recession, growth has been significantly impacted by persistently high inflation driven by higher energy and food costs, the European Central Bank's aggressive tightening of monetary policy, the fastest in over two decades, and declining confidence levels among businesses and consumers. Among the bloc's largest economies, Germany registered a decline of 0.3 per cent in the first quarter, while the Netherlands contracted by 0.7 per cent. However, the numbers released for France (0.2 per cent), Italy (0.5 per cent), and Spain (0.5 per cent) showed expansion in these economies during the same period. The fall in wholesale energy prices, warmer-than-expected weather and fiscal stimulus had helped the bloc dodge a widely feared recession over the winter. However, inflation headwinds are likely to persist for some time. Excluding food and energy, prices accelerated to 5.7 per cent in March from 5.2 per cent in December.

In Asia, the Japan's economy advanced 1.6% on an annualised basis during the first quarter of 2023, topping market consensus of a 0.7% growth and after a revised 0.1% contraction in the previous quarter. The latest GDP number marked the strongest pace of growth in three quarters, mainly supported by an acceleration in private consumption following the removal of all pandemic measures. Also, business investment unexpectedly grew robustly after falling in the prior period. Meantime, government spending stagnated following rises in the previous four quarters, while net exports contributed negatively primarily due to a steep decline in shipments to the US and Europe. Elsewhere in the region, China's economy continued to recover following the removal of the country's strict Covid-19 measures. The economy grew by 4.5 per cent in the three months to March, just below the government's 5 per cent 2023 growth target.

In the global monetary sector, most major central banks continued to tighten monetary policy albeit at a more moderate pace. The Fed increased interest rates in February and March but in smaller increments of 25 basis points to bring the target range to 4.75 - 5.00 per cent. Similarly, the BoE increased interest rates by 50 basis points in February and an additional 25 basis points in March, lifting the bank rate to 4.25 per cent with its eleventh consecutive hike. At the same time, the ECB raised interest rates twice over the quarter in 50 basis points increments. Its sixth interest rate increase in March brought its marginal lending rate to 3.75 per cent. In contrast to its peers, the BoJ maintained its accommodative position and kept its short-term interest rate at -0.10 per cent and its 10-year bond yield target at 0.0 per cent.

Despite banking sector concerns towards the end of the quarter and the likely negative effects on the global economy, officials still felt that some additional policy tightening may be needed to combat the risk of persistently high inflation. Nonetheless, key officials signalled a more balanced approach going forward, citing the need to assess the impact of the sizable interest rate hikes that occurred over 2022 and the tightening effect of rising credit concerns on lending conditions.

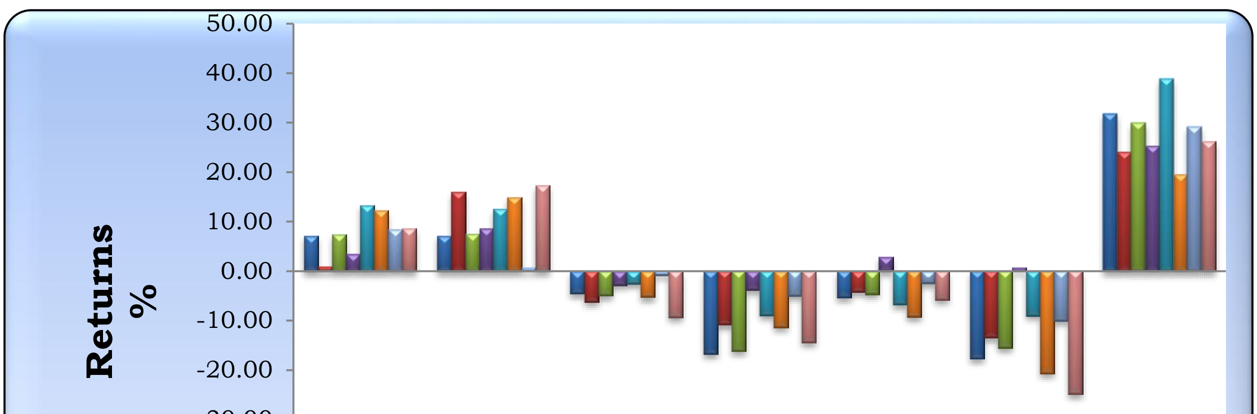
SECTION 2 – CAPITAL AND MONEY MARKET REVIEW

Global developed equity and fixed income assets ended the quarter higher despite heightened financial stability concerns in March and monetary rate increases. Over the period, easing inflationary pressures fuelled speculation over whether major developed central banks, except for Japan, were close to pausing their rate hiking cycle. Falling interest rate expectations and receding recession fears boosted both stock and bond markets. Overall, financial market volatility moved modestly lower as anxiety over the banking sector crisis quickly dissipated with the resolution of failed entities. The US Chicago Board Options Exchange Volatility Index (VIX) averaged 20.70 points down from 24.94 points during the prior quarter. Similarly, the Euro Stoxx 50 Volatility Index (VSTOXX) fell 3.46 points to a quarterly average of 20.17 points.

US stock markets rallied at the beginning of the period as fears of a severe downturn eased amid encouraging inflation data and resilient economic growth. Hopes that the US Fed was approaching the end of its rate hiking cycle also bolstered equity valuations. However, risk sentiment deteriorated in February as investors re-evaluated monetary policy expectations. Declines continued into March with the collapse of Silicon Valley Bank, but US equities recovered towards the end of the quarter as the swift actions by regulators and officials helped to limit contagion risks and restore public confidence. Overall, the US Standard and Poor's (S&P) 500 index returned 7.48 per cent driven by strong gains in the technology, communication services and consumer discretionary sectors. Meanwhile, the financial and energy sectors lagged the broader market hindered by the banking crisis and a sharp decline in fuel prices.

Meanwhile, non-US developed stock markets, as represented by the MSCI EAFE index, rose by 8.61 per cent, when measured in US dollars (see Figure 1). Local currency exposures incrementally enhanced returns amid modest US dollar weakness over the quarter. European stocks were buoyed by surprisingly resilient GDP data and falling energy prices. The banking crisis and heightened concerns around Credit Suisse, Switzerland's second-largest bank, lead to steep losses during March. However, news that UBS AG agreed to acquire the company in a government-backed deal helped to reassure investors and markets quickly rebounded into quarter end. Overall, France's CAC 40 index and Germany's DAX index earned 13.39 per cent and 12.25 per cent, respectively. The UK's FTSE 100 index advanced 3.55 per cent hampered by the country's weaker macroeconomic backdrop. Meanwhile, in Asia, Japan's Nikkei 225 index returned 8.51 per cent on hopes China's reopening would help boost global growth.

Figure 1
Total Returns on Equity Indices
/Per cent/

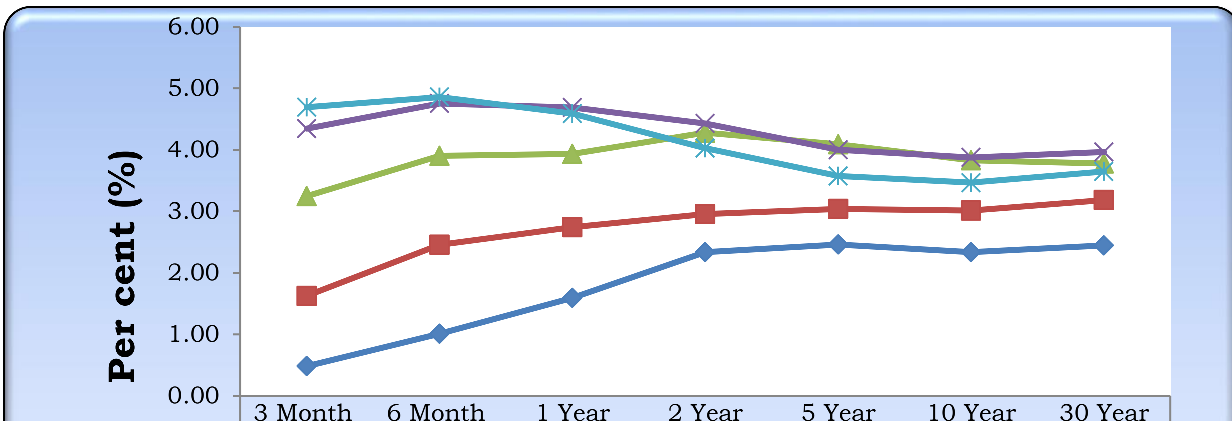


	QTR Ended Mar-23	QTR Ended Dec-22	QTR Ended Sep-22	QTR Ended Jun-22	QTR Ended Mar-22	FY 21/22	FY 20/21
Russell 3000	7.17	7.17	-4.47	-16.71	-5.28	-17.64	31.86
Dow Jones	0.93	16.01	-6.17	-10.78	-4.10	-13.40	24.15
S&P 500	7.48	7.55	-4.89	-16.10	-4.60	-15.49	29.99
FTSE 100 - UK	3.55	8.68	-2.80	-3.80	2.89	0.78	25.31
CAC 40 - France	13.39	12.57	-2.50	-8.92	-6.68	-8.95	38.96
DAX 30 - Germany	12.25	14.93	-5.24	-11.31	-9.25	-20.62	19.59
Nikkei 225 - Japan	8.51	0.77	-0.80	-5.02	-2.42	-10.00	29.14
MSCI EAFE	8.61	17.38	-9.29	-14.34	-5.77	-24.79	26.27

Source: Bloomberg

US Treasury yield movements were volatile over the quarter as investors re-examined monetary policy expectations amid mixed inflation data and diverging views from Fed officials. The banking crisis further compounded the uncertain interest rate outlook and fuelled safe-haven demand. US yields moved lower from the one-year to 30-year portion of the curve. The 2-year yield fell by 40 basis points to 4.03 per cent, while the 10-year yield declined by 41 basis points to 3.47 per cent. The shorter-dated three-month US Treasury bill added 35 basis points to 4.69 per cent as investors sought to reduce exposure to specific maturities taking into consideration the risk of a possible default given the ongoing debt ceiling debate.

Figure 2
US Treasury Curve
/Per Cent/



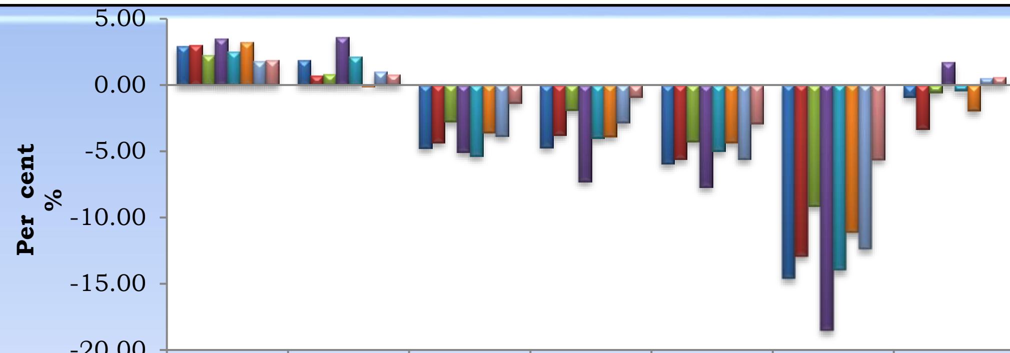
	3 Month	6 Month	1 Year	2 Year	5 Year	10 Year	30 Year
Mar-22	0.48	1.01	1.60	2.33	2.46	2.34	2.45
Jun-22	1.63	2.46	2.74	2.95	3.04	3.01	3.18
Sep-22	3.25	3.90	3.93	4.28	4.09	3.83	3.78
Dec-22	4.34	4.75	4.69	4.43	4.00	3.87	3.96
Mar-23	4.69	4.86	4.59	4.03	3.57	3.47	3.65

Source: Bloomberg

The broader US fixed income market, as represented by the Bloomberg Barclays US Aggregate Bond Index, returned 2.96 per cent for the quarter ended March 2023 (see Figure 3). At the sub-sector level, longer-duration sectors benefitted from the decline in yields with US Corporate and G7 bonds earning 3.50 per cent and 3.25 per cent, respectively. While credit risk increased alongside the banking crisis, the US Corporate

Bond sector spread over US Treasuries ended the period only marginally wider. Meanwhile, the securitised sector lagged the broader market. US Commercial Mortgage Backed securities added 1.81 per cent given weakening credit fundamentals and US Mortgage Backed securities rose by 2.53 per cent as investors assessed the upcoming sale of the failed banks' portfolios on the market.

Figure 3
Returns on Fixed Income Indices
/Per Cent/

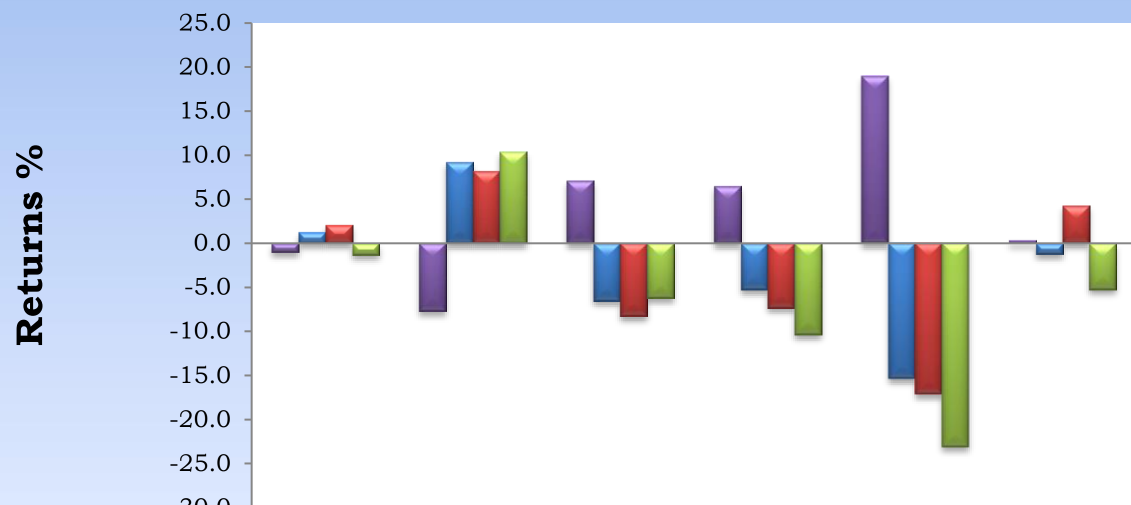


	QTR Ended Mar-23	QTR Ended Dec-22	QTR Ended Sep-22	QTR Ended Jun-22	QTR Ended Mar-22	FY 21/22	FY 20/21
Barclays US Aggregate	2.96	1.87	-4.75	-4.69	-5.93	-14.60	-0.90
US Treasury	3.00	0.72	-4.35	-3.77	-5.58	-12.94	-3.30
Agencies	2.26	0.82	-2.77	-1.89	-4.24	-9.14	-0.56
US Corporate	3.50	3.63	-5.06	-7.26	-7.69	-18.53	1.74
US MBS	2.53	2.14	-5.35	-4.01	-4.97	-13.98	-0.43
G7 Bonds (Hedged)	3.25	-0.11	-3.60	-3.87	-4.33	-11.12	-1.92
US CMBS	1.81	1.02	-3.85	-2.85	-5.59	-12.38	0.52
US ABS	1.86	0.81	-1.34	-0.91	-2.88	-5.61	0.59

Source: Bloomberg

The US dollar weakened further with the US dollar spot index (DXY) declining by 0.98 per cent as investors lowered expectations for additional interest rate increases by the Fed (See Figure 4). Meanwhile, the BoE and ECB suggested that monetary policy tightening would need to continue until further progress was achieved towards combatting persistent inflationary pressures. The British pound and Euro appreciated 2.10 per cent and 1.25 per cent, respectively, against the US dollar. The Japanese Yen depreciated by 1.31 per cent with the BoJ anticipated to maintain its ultra-accommodative stance citing current economic and inflation conditions.

Figure 4
Foreign Exchange Returns for Major Currencies
vis-à-vis the US Dollar
/Per Cent/



	QTR Ended Mar-23	QTR Ended Dec-22	QTR Ended Sep-22	QTR Ended Jun-22	FY 21/22	FY 20/21
DXY CURNCY	-0.98	-7.67	7.10	6.48	18.98	0.37
EURUSD CURNCY	1.25	9.21	-6.51	-5.27	-15.35	-1.20
GBPUSD CURNCY	2.10	8.17	-8.28	-7.31	-17.10	4.29
JPYUSD CURNCY	-1.31	10.39	-6.22	-10.34	-23.12	-5.23

Source: Bloomberg

SECTION 3 – PORTFOLIO PERFORMANCE

Strategic Asset Allocation

Table 3 reports the actual mandate weights of the HSF's Investment Portfolio relative to its approved SAA for the quarter ended March 2023 and the previous three (3) quarters.

In accordance with Section 14 of the Act, the HSF received a total contribution of roughly USD 346 million for FY 2022. At the time of receipt of the contributions (August 2022 and December 2022), the Board assessed market outlook to be highly uncertain and thus, decided not to allocate the cash contribution to Fund's investment mandates, holding, instead, the contribution in short-term USD fixed deposits in order to protect the principal value of the HSF. The USD fixed deposits will mature in July 2023.[2] In June, the Board will re-assess market otutlook to determine an appropriate allocation of the contribution, consistent with the approved SAA.

Table 3
Portfolio Composition relative to the Approved SAA[3]
/per cent/

Portfolio Weights	Asset Class	Target Weight SAA	Jun-22 Actual % of Fund	Sep-22 Actual % of Fund	Dec-22 Actual % of Fund	Mar 23 Actual % of Fund
	US Short Duration Fixed Income	25.00	20.54	23.54	21.77	21.15
	US Core Domestic Fixed Income	40.00	32.76	33.62	31.38	30.83
	US Core Domestic Equity	17.50	24.07	21.94	21.48	22.10
	Non-US Core International Equity	17.50	22.63	17.44	18.62	19.40
	USD Fixed Deposit	0.00	0.00	3.46	6.75	6.52

Notes: (1) Totals may not sum to 100 due to rounding. (2)
(2) Contribution received in FY 2022 is held in short-term USD fixed deposits and remains avalible to be allocated to the Fund's investment mandates.

During the three months ended March 2023, fluctuations in the market values of the HSF's assets resulted in changes in the mandate weights. At the end of the quarter, the HSF maintained an overall underweight allocation to fixed income securities and a corresponding overweight to equities and USD fixed deposits. When compared to the SAA, the US Core Domestic Fixed Income mandate held the largest underweight position of 9.17 per cent. The contribution held in USD fixed deposits is 6.52 per cent of the HSF's assets (see Table 3). With the HSF's actual asset exposures deviating from the approved SAA, the Board continues to review market conditions and re-assess its capital

[2] The contributions received in August 2022 and December 2022 were placed in USD fixed deposits for maturity in April 2023. At its meeting in April 2023, the Board, having assessed that the market outlook was highly uncertain, took the decsion to roll-over the maturing value of the deposits for a further 3-month period.
[3] The Board's approved investment policy allow the mandate weights to deviate from the approved SAA weights by +/- 5 per cent.

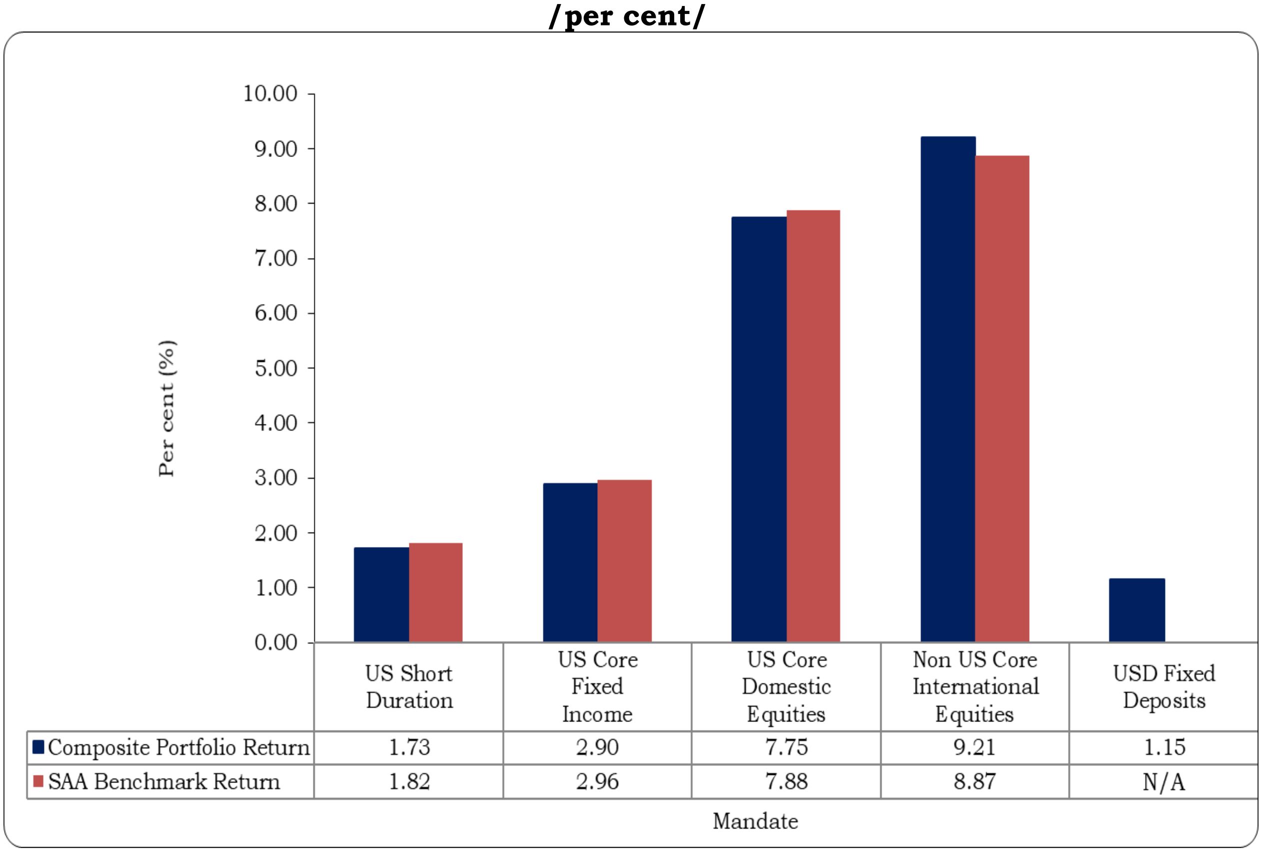
market expectations to determine the appropriate asset mix for the Fund and bring the HSF back in compliance with its approved investment framework.

The total net asset value of the Fund as at the end of March 2023 was **US$5,380.1 million**, compared to US$5,139.7 million as at December 2022. Of this total, the Investment Portfolio was valued at US$5,379.1 million, while the remaining portfolio was held in operating cash accounts to meet the day-to-day expenses that arise from the management of the Fund.

Performance of the Investment Portfolio

During the second fiscal quarter of 2023, the HSF's Investment Portfolio returned 4.74 per cent with positive contributions from both the fixed income and equity mandates (see Figure 5).

Figure 5
Absolute Returns by Mandate
For the period Jan-Mar 2023
/per cent/



	US Short Duration	US Core Fixed Income	US Core Domestic Equities	Non US Core International Equities	USD Fixed Deposits
Composite Portfolio Return	1.73	2.90	7.75	9.21	1.15
SAA Benchmark Return	1.82	2.96	7.88	8.87	N/A

When compared with its SAA benchmark[4], which increased by 4.57 per cent, the HSF outperformed by 0.17 per cent. The main contributor to excess returns was the Fund's overweight allocation to equities relative to its SAA benchmark. In aggregate, the external managers' strategies marginally detracted from performance.

The **US Core Domestic Equity** mandate rose by 7.75 per cent over the quarter ended March 2023. This compares to a return of 7.88 per cent for its benchmark, the Russell 3000 ex-Energy index (see Figure 5). Stock selection in the healthcare, consumer discretionary and technology sectors detracted from performance, while stock choices within industrials and financials added to returns. The net asset value of the mandate ended March 2023 at **US$1,188.7 million**, up from US$1,103.7 million as at the end of December 2022.

The **Non-US Core International Equity** mandate gained 9.21 per cent over the quarter and outperformed its benchmark, the MSCI EAFE ex-Energy index, by 34 basis points. Both country allocation and stock selection decisions augmented performance. Positioning in Italy, France and Germany contributed to returns and were partially mitigated by stock decisions in Switzerland. During the quarter, the mandate's net asset value increased by $86.7 million to **US$1,043.4 million** as at the end of March 2023.

The **US Short Duration Fixed Income** mandate earned 1.73 per cent over the quarter, while its benchmark, the Bank of America Merrill Lynch US Treasury 1-5 year index, increased by 1.82 per cent. The portfolio's short duration and yield curve positioning detracted from performance, while exposure to high quality credit sectors contributed to returns. The net asset value of the mandate as at March 31, 2023 was **US$1,137.9 million,** up from US$1,118.9 million as at the end of the prior quarter.

The longer duration **US Core Domestic Fixed Income** mandate returned 2.90 per cent while the benchmark, the Bloomberg Barclays US Aggregate Bond index, rose by 2.96 per cent. Key interest rate positioning along the yield curve and the portfolio's overall lower duration exposure detracted from performance. This was partially offset by cross

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[4] The SAA benchmark is a blended benchmark, which comprises of the Bank of America/Merrill Lynch US Treasury 1-5 Years Index (25%), Bloomberg Barclays US Aggregate Bond Index (40%), Russell 3000 ex Energy Index (17.5%), and MSCI EAFE ex Energy Index (17.5%).

sector strategies and strong security selection in the securitised and investment grade corporate sectors. The net asset value of the mandate as at the end of the quarter was **US$1,658.6 million** compared to US$1,612.5 million three months earlier.

The **USD Fixed Deposit** portfolio earned 1.15 per cent over the quarter. The value of the portfolio as at the end of March 2023 was **US$350.6 million** compared to US$346.8 million on December 31, 2022.

SECTION 4 – COMPLIANCE AND PORTFOLIO RISKS

Compliance

As at the end of the quarter, there were two fixed income investments held in the US Core Domestic Fixed Income mandate that lost their eligibility due to credit rating downgrades. These bonds were subsequently sold and the portfolio was brought back in compliance as at April 18, 2023.

Following extreme market events that transpired at the beginning of the pandemic in March 2020, one manager in the US Core Domestic Fixed Income mandate continued to operate above the risk target relative to the benchmark, as stated in the investment guidelines. The Central Bank, as manager of the Fund, aims to bring the portfolio back in compliance with the investment guidelines as soon as feasible. In the interim, the Central Bank closely monitors the manager and holds frequent discussions regarding the market environment and portfolio positioning.

During the quarter, the relative deviation of the mandate weights from the approved SAA were maintained and reflected market value movements. As at March 31, 2023, asset classes varied above the allowable +/- 5 per cent deviation (see Table 3). Taking into consideration the uncertain short-term market outlook, the HSF Board decided to maintain its allocation to USD Fixed Deposits for an additional three-month period. The Central Bank will continue to monitor the Fund's asset class exposures and provide monthly updates to the Board.

Portfolio Risks

The main risks for the HSF portfolio are credit, concentration, interest rate, and currency risks. The following paragraphs give a description of how these risks are mitigated.

Credit Risk

Within the **money market portion** of the Fund, credit risk is minimised by the strict adherence to the following standards: (i) all counterparties must have a minimum credit rating of either A-1 from the Standard and Poor's rating agency or P-1 from Moody's Investors Services; and (ii) a maximum exposure limit for counterparties of no more than 5.0 per cent of the market value of the portfolio.

For **fixed income instruments**, credit risk is mitigated by the use of credit concentration limits as well as minimum credit quality ratings. Bonds must have an investment grade rating as defined by Standard and Poor's, Moody's Investors Services or Fitch Ratings Incorporated. Should the required ratings on an existing fixed income security fall below the minimum standards, the security must be sold within an agreed upon timeframe. Table 4 below shows the average credit quality of the US Short Duration and US Core Fixed Income Portfolios as at March 31, 2023.

Table 4
Average Credit Rating

Mandate	Portfolio	Benchmark
US Short Duration	**AA+**	**AA+**
US Core Fixed Income	**AA-**	**AA**

Concentration *Risk*

Concentration or diversification risk is minimised by investing across various asset types and holding a large number of positions within an asset class. The aim is to minimise risk and/or maximise return by investing in a wide cross-section of asset classes and positions that would each react differently to the same market event. As such, it is likely that when one has strong returns, another may have lower returns to the same market event.

The portfolio is currently invested across five (5) asset groups as follows: US Short Duration Fixed Income; US Core Domestic Fixed Income; US Core Domestic Equity and Non-US Core International Equity and USD Fixed Deposits. Concentration risk is also minimised within asset groups by approved market exposure and issuer holding limits.

For the **equity portfolios**, this risk is managed by imposing a maximum percentage holding of 3.0 per cent of any security's outstanding shares, as well as a maximum sector deviation relative to the benchmark of 5.0 per cent.

Interest Rate Risk

Interest rate risk is managed using a weighted average effective duration limit on the respective portfolios. For the US Short Duration Fixed Income mandate, the allowable range is six months longer or shorter than the weighted average duration of its respective benchmark. While the US Core Domestic Fixed Income mandate has an allowable range of 12 months longer or shorter than the weighted average duration of its respective benchmark. Table 5 shows the weighted average duration for the US Short Duration and US Core Domestic Fixed Income portfolios as at March 31, 2023.

Table 5
Weighted Average Duration
/Years/

Mandate	**Portfolio**	**Benchmark**
US Short Duration	**2.35**	**2.57**
US Core Domestic Fixed Income	**6.18**	**6.33**

Currency Risk

Currency risk is managed by containing and managing the exposure to non-US dollar instruments. For the fixed income mandates, no more than 10 per cent of the market value of the portfolio can be invested in securities denominated in currencies other than the US Dollar. For these mandates, non-US dollar currency exposure is fully hedged into the US Dollar. However, the effectiveness of the hedge may vary depending on market conditions.

For the US Core Domestic Equity mandate, no more than 5 per cent of the market value of the portfolio can be invested in securities denominated in currencies other than the US Dollar. The performance benchmark for the Non-US Core International Equity portfolio is the custom MSCI EAFE ex-energy Index. The index comprises of equity securities of issuers domiciled in developed markets countries, excluding the US and Canada. Where benchmark securities are quoted in currencies other than the US dollar, the Fund accepts the currency risk. For this mandate, however, managers can hedge up to 15 per cent of the market value of their currency exposure into the US dollar, the base reporting currency for the HSF. At the end of March 2023, the currency exposure for this portfolio was 98 per cent of its market value. During the quarter, all the portfolios were within their respective limits.

Appendix I
HSF Portfolio - Historical Performance

Quarter End	Current Returns			Financial YTD			Annualised Return Since Inception		
	Portfolio	Benchmark	Excess	Portfolio	Benchmark	Excess	Portfolio	Benchmark	Excess
	%	%	bps	%	%	bps	%	%	bps
FY 2010									
December	0.96	0.89	6.65	0.96	0.89	6.65	3.72	3.78	-6.16
March	1.61	1.68	-6.20	2.59	2.58	0.49	3.95	4.03	-7.76
June	-1.83	-1.89	6.05	0.71	0.64	6.69	3.07	3.12	-5.18
September	5.33	5.08	24.73	6.07	5.75	31.93	4.37	4.35	2.06
FY 2011									
December	2.29	2.21	8.15	2.29	2.21	8.15	4.70	4.65	4.13
March	1.62	1.54	7.24	3.94	3.79	15.68	4.81	4.76	5.72
June	1.88	1.81	6.68	5.89	5.67	22.91	4.98	4.91	7.00
September	-4.82	-4.28	-53.66	0.79	1.14	-34.89	3.57	3.63	-6.29
FY 2012									
December	2.74	3.03	-28.52	2.74	3.03	-28.52	3.97	4.08	-12.00
March	5.04	4.46	57.50	7.92	7.63	29.29	4.78	4.78	-0.08
June	-0.90	-0.60	-30.42	6.95	6.98	-3.72	4.37	4.43	-6.13
September	3.53	2.98	55.03	10.73	10.18	55.02	4.68	4.65	2.07
FY 2013									
December	1.49	1.45	4.11	1.49	1.45	4.11	4.88	4.83	4.76
March	3.29	2.90	39.19	4.82	4.38	44.01	5.23	5.12	11.20
June	-0.30	-0.69	39.05	4.51	3.66	84.64	4.97	4.80	17.26
September	3.95	3.47	47.35	8.63	7.26	137.06	5.40	5.16	24.01
FY 2014									
December	3.95	2.66	129.38	3.95	2.66	129.38	5.80	5.37	42.67
March	1.46	1.30	16.28	5.47	4.00	147.73	5.80	5.37	43.52
June	2.56	2.30	25.90	8.17	6.38	178.44	5.96	5.51	45.76
September	-0.48	-0.73	25.31	7.65	5.60	204.51	5.69	5.22	47.69
FY 2015									
December	2.25	1.63	62.27	2.25	1.63	62.27	5.81	5.26	54.46
March	2.29	2.25	3.95	4.60	3.92	67.71	5.92	5.39	53.34
June	-0.02	-0.51	49.43	4.58	3.39	119.07	5.74	5.16	57.93
September	-2.02	-2.19	16.83	2.47	1.13	134.06	5.31	4.73	58.12

Quarter End	Current Returns			Financial YTD			Annualised Return Since Inception		
	Portfolio	**Benchmark**	**Excess**	**Portfolio**	**Benchmark**	**Excess**	**Portfolio**	**Benchmark**	**Excess**
	%	**%**	**bps**	**%**	**%**	**bps**	**%**	**%**	**bps**
FY 2016									
December	1.68	1.67	0.22	1.68	1.67	0.22	5.36	4.79	56.52
March	0.80	1.26	-46.14	2.48	2.95	-46.70	5.30	4.80	49.64
June	0.80	1.11	-30.92	3.30	4.09	-78.90	5.24	4.79	44.83
September	2.45	2.12	32.85	5.83	6.29	-45.72	5.37	4.89	47.33
FY 2017									
December	-0.46	-0.98	51.92	-0.46	-0.98	51.92	5.17	4.66	51.64
March	3.17	2.92	24.41	2.69	1.91	77.74	5.37	4.84	52.92
June	2.74	2.44	30.00	5.50	4.40	110.45	5.51	4.97	54.69
September	2.61	2.06	54.78	8.25	6.55	170.48	5.64	5.05	58.79
FY 2018									
December	2.24	1.83	40.22	2.24	1.83	40.22	5.72	5.11	61.32
March	-0.55	-0.94	38.21	1.67	0.88	78.91	5.53	4.90	63.49
June	0.26	0.21	5.36	1.94	1.09	84.52	5.43	4.81	62.52
September	1.81	1.54	27.02	3.79	2.65	113.37	5.47	4.84	63.61
FY 2019									
December	-4.69	-3.54	-114.99	-4.69	-3.54	-114.99	4.93	4.41	51.33
March	5.93	5.61	31.25	0.96	1.88	-91.66	5.33	4.79	53.03
June	3.01	3.26	-25.10	4.00	5.20	-119.99	5.47	4.97	49.95
September	1.05	1.27	-21.70	5.10	6.54	-144.08	5.44	4.97	47.15
FY 2020									
December	3.62	3.20	41.90	3.62	3.20	41.90	5.63	5.13	49.64
March	-7.33	-5.51	-182.43	-3.98	-2.48	-149.43	4.90	4.58	32.73
June	8.62	7.57	104.53	4.30	4.90	-60.38	5.46	5.06	39.94
September	3.74	2.98	76.36	8.20	8.03	17.42	5.65	5.20	45.01

Quarter End	Current Returns			Financial YTD			Annualised Return Since Inception		
	Portfolio	Benchmark	Excess	Portfolio	Benchmark	Excess	Portfolio	Benchmark	Excess
	%	%	bps	%	%	bps	%	%	bps
FY 2021									
December	6.43	5.50	93.52	6.43	5.50	93.52	6.02	5.51	51.10
March	1.28	0.08	119.45	7.79	5.58	220.73	6.00	5.41	59.10
June	4.00	3.09	90.18	12.10	8.85	324.76	6.19	5.54	64.60
September	-0.31	-0.09	-22.00	11.75	8.75	299.80	6.05	5.44	61.82
FY 2022									
December	2.97	1.98	99.31	2.97	1.98	99.31	6.16	5.48	67.75
March	-5.69	-5.44	-25.12	-2.89	-3.57	68.04	5.64	5.00	64.44
June	-9.91	-7.81	-209.37	-12.51	-11.10	-140.61	4.83	4.36	47.24
September	-4.59	-4.93	34.58	-16.52	-15.49	-103.41	4.43	3.95	48.73
FY 2023									
December	5.27	5.13	14.43	5.27	5.13	14.43	4.70	4.21	48.99
March	4.74	4.57	16.93	10.27	9.94	32.92	4.93	4.44	49.39

Notes:

(1) Differences in totals are due to rounding.

(2) In August 2009, International Equities and Fixed Income Securities were added to the HSF portfolio. The performance benchmark for the HSF portfolio became a blended benchmark which comprise, Bank of America/Merrill Lynch US Treasury 1-5 Years Index, US One-month LIBID Index, Barclays US Aggregate, Russell 3000 ex Energy, and MSCI EAFE ex Energy.

(3) In January 2011, the HSF Portfolio achieved its Strategic Asset Allocation where the portfolio was invested in four assets classes. US Short Duration Fixed Income (25), US Core Fixed Income (40), US Equity (17.5) and Non-US International Equity (17.5).

(4) With effect from the quarter ended December 2012, the Annualised Returns Since Inception were computed using a geometric average and not the previously used arithmetic average. For comparative purposes, prior period annualized returns since inception shown above were computing using a geometric average.

Appendix II
Heritage and Stabilisation Fund
Portfolio Valuation (USD)

Valuation Date	Net Asset Value	Total Comprehensive Income	Accumulated Surplus & Unrealized Capital Gains/Losses	Contributions / (Withdrawals)
Annual Portfolio Valuation				
September 30,2007	1,766,200,701	41,966,361	41,966,361	321,706,043
September 30,2008	2,888,421,556	68,412,770	110,379,131	1,054,174,457
September 30,2009	2,964,686,478	76,248,691	186,755,766	-
September 30,2010	3,621,984,041	177,645,460	364,361,226	477,344,263
September 30,2011	4,084,016,158	9,715,841	374,074,067	451,400,519
September 30,2012	4,712,376,278	420,693,705	794,770,772	207,550,846
September 30,2013	5,154,027,747	399,007,950	1,193,778,722	42,414,251
September 30,2014	5,533,425,248	379,167,024	1,572,945,746	-
September 30,2015	5,655,143,565	120,639,605	1,693,585,351	-
September 30,2016	5,584,246,290	305,452,096	1,999,037,447	(375,050,860)
September 30, 2017	5,762,544,777	429,475,446	2,428,512,893	(252,548,048)
September 30, 2018	5,965,847,092	203,717,910	2,632,230,803	-
September 30, 2019	6,255,349,599	288,837,111	2,921,067,914	-
September 30, 2020	5,731,799,397	457,090,777	3,378,158,691	(979,853,158)
September 30, 2021	5,463,893,835	624,178,449	4,002,337,140	(892,714,533)
September 30, 2022	4,712,444,758	(913,456,918)	3,088,880,222	163,994,499
Quarterly Portfolio Valuation				
December 31, 2014	5,653,895,156	120,509,077	1,693,454,823	-
March 31, 2015	5,779,420,631	125,471,133	1,818,925,956	-
June 30, 2015	5,774,951,169	(4,765,278)	1,814,160,678	-
September 30, 2015	5,655,143,565	(120,575,327)	1,693,585,351	-
December 31, 2015	5,744,963,957	90,833,573	1,784,418,924	-
March 31, 2016	5,787,343,363	42,134,260	1,826,553,184	-
June 30, 2016	5,454,568,405	42,838,704	1,869,391,888	(375,050,860)
September 30, 2016	5,584,246,290	129,645,559	1,999,037,447	-

Appendix II
Heritage and Stabilisation Fund
Portfolio Valuation (USD)

Valuation Date	Net Asset Value	Total Comprehensive Income	Accumulated Surplus & Unrealized Capital Gains/Losses	Contributions / (Withdrawals)
Quarterly Portfolio Valuation				
December 31, 2016	5,555,039,859	(29,605,256)	1,969,432,191	-
March 31, 2017	5,473,047,983	170,609,885	2,140,042,076	(252,548,048)
June 30, 2017	5,619,311,033	146,006,897	2,286,048,973	-
September 30, 2017	5,762,544,777	142,463,920	2,428,512,893	-
December 31, 2017	5,888,599,170	124,900,387	2,553,413,280	-
March 31, 2018	5,852,789,288	(36,468,342)	2,516,944,938	-
June 30, 2018	5,863,070,206	12,336,541	2,529,281,479	-
September 30,2018	5,965,847,092	102,949,324	2,632,230,803	-
December 31,2018	5,683,219,683	(486,810,763)	2,349,137,950	-
March 31, 2019	6,016,429,263	333,123,750	2,682,261,700	-
June 30, 2019	6,194,328,757	177,424,921	2,859,686,621	-
September 30, 2019	6,255,349,599	61,381,293	2,921,067,914	-
December 31, 2019	6,478,340,872	222,180,512	3,143,248,426	-
March 31, 2020	5,925,283,653	(473,394,404)	2,669,854,022	(79,853,158)
June 30, 2020	5,817,072,795	493,393,358	3,163,247,380	(600,000,000)
September 30, 2020	5,731,799,397	214,911,311	3,378,158,691	(300,000,000)
December 31, 2020	5,888,114,410	355,398,920	3,733,557,611	(198,943,283)
March 31, 2021	5,661,689,420	67,788,202	3,801,345,814	(293,771,250)
June 30, 2021	5,583,193,276	220,867,117	4,022,212,931	(300,000,000)
September 30, 2021	5,463,893,835	(19,875,791)	4,002,337,140	(100,000,000)
December 31, 2021	5,623,159,544	158,986,912	4,161,324,052	-
March 31, 2022	5,299,527,705	(323,446,707)	3,837,877,345	-
June 30, 2022	4,771,488,412	(527,955,978)	3,309,921,367	-
September 30, 2022	4,712,444,758	(221,041,145)	3,088,880,222	163,994,499
December 31, 2022	5,139,740,767	245,008,297	3,333,888,519	182,213,278
March 31, 2023	5,380,057,262	240,193,741	3,574,082,260	-

Appendix III

Summary Characteristics of Composite Benchmarks

Fixed Income Benchmarks

Key Characteristics	Bloomberg Barclays US Aggregate Index	Merrill Lynch 1-5 Index
Total Holdings	13,278	155
Coupon (%)	2.79	1.92
Duration (Years)	6.33	2.57
Average Life (Years)	8.50	2.72
Yield to Maturity (%)	4.40	3.99
Option Adjusted Spread (bps)	57	-2
Average Rating (S&P)	AA	AA+
Minimum Rating (S&P)	BBB	AA+

Equity Benchmarks

Key Characteristics	Russell 3000 (ex-Energy)	MSCI EAFE (ex-Energy)
Total Holdings	2,783	767
Earnings Per Share (EPS Growth 3-5yr fwd.)	12.5	8.8
Price Earnings (P/E fwd.)	19.0	14.0
Price / Book (P/B)	3.6	1.7
Weighted Average Market Capitalisation* (Bn)	482.4	86.4

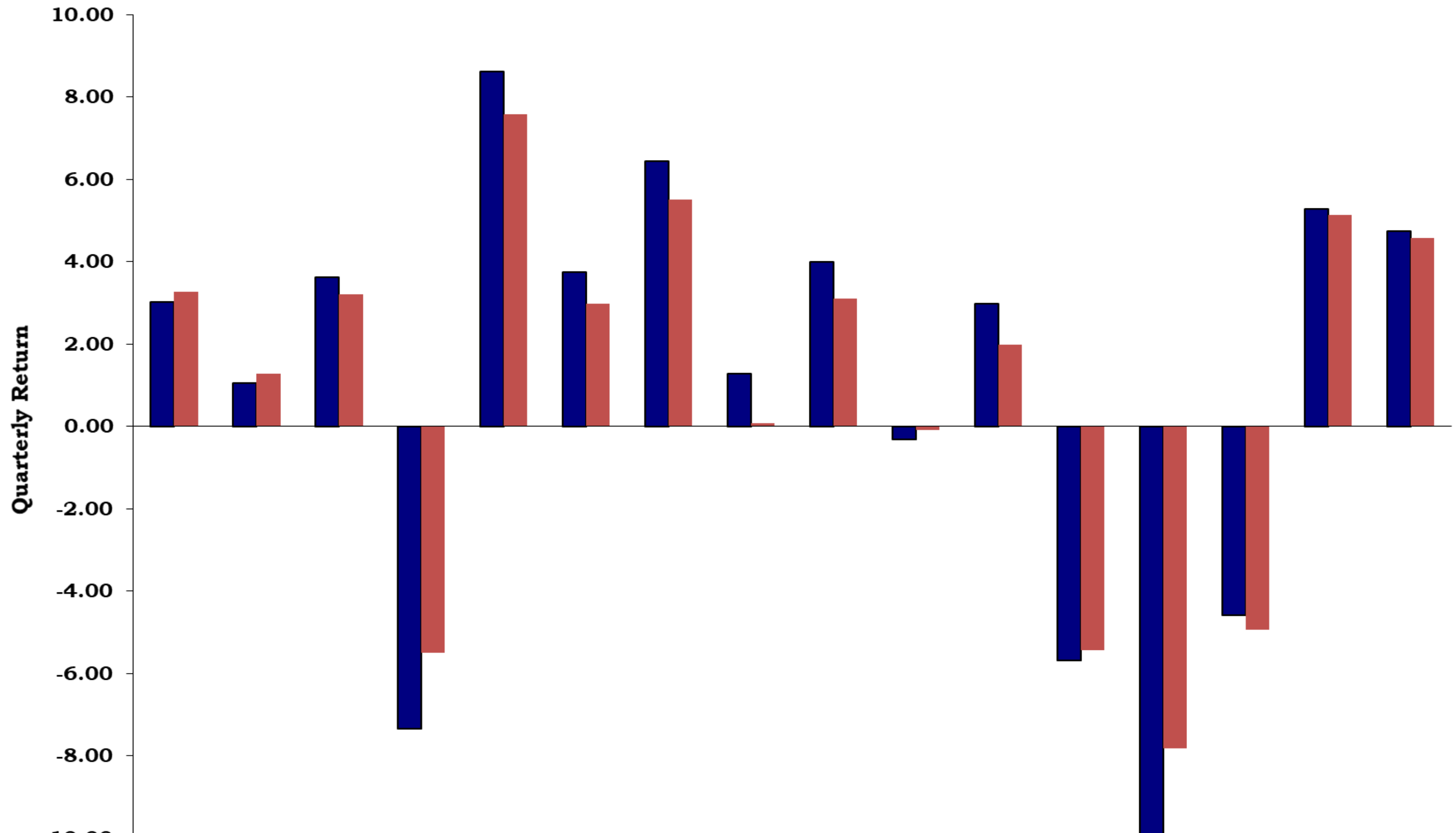
*Market capitalisation is a measurement of the size of a company (share price x the number of outstanding shares). The weighted average market capitalisation of a stock market index represents the average size of the firms comprising the index where each is weighted according to its market capitalisation.

Appendix IV
Summary of the Fund's Net Asset Value by Mandate
/US$ Million/

	Mar-22	**Jun-22**	**Sep-22**	**Dec-22**	**Mar-23**
Total Fund Value	**5,299.5**	**4,771.5**	**4,712.4**	**5,139.7**	**5,380.1**
Total Value of Equity	**2,663**	**2,227**	**1,855**	**2,060**	**2,232**
US Core Domestic Equity	1,381	1,148	1,034	1,104	1,189
Non-US Core International Equity	1,282	1,079	821	957	1,043
Total Value of Fixed Income	**2,634**	**2,542**	**2,693**	**2,731**	**2,796**
US Short Duration Fixed Income	987	980	1,109	1,119	1,138
US Core Domestic Fixed Income	1,647	1,562	1,584	1,612	1,659
Internal Portfolio	**--**	**--**	**163**	**347**	**351**
Total Value of Operating Cash	**2**	**2**	**1**	**1**	**0.9**

NB: Differences in totals are due to rounding.

Appendix V
HSF Portfolio and SAA Benchmark Quarterly Returns
/per cent/



	FY2019 Q3	FY2019 Q4	FY2020 Q1	FY2020 Q2	FY2020 Q3	FY2020 Q4	FY2021 Q1	FY2021 Q2	FY2021 Q3	FY2021 Q4	FY2022 Q1	FY2022 Q2	FY2022 Q3	FY2022 Q4	FY2023 Q1	FY2023 Q2
HSF Portfolio	3.01	1.05	3.62	-7.33	8.62	3.74	6.43	1.28	4.00	-0.31	2.97	-5.69	-9.91	-4.59	5.27	4.74
Benchmark	3.26	1.27	3.20	-5.51	7.57	2.98	5.50	0.08	3.09	-0.09	1.98	-5.44	-7.81	-4.93	5.13	4.57