



2021/22

REPORT ON THE
MANAGEMENT OF
THE GOVERNMENT'S
PORTFOLIO

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LETTER FROM THE CEO

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1.1

Letter from the CEO

Navigating a World in Transition

Dear Stakeholders,

The investment landscape is shifting rapidly. Profound uncertainties have emerged on multiple fronts. Years of concerns over deflation have turned into worries of elevated inflation, forcing economic policymakers to reverse stimulus policies. At the same time, the clock for the climate crisis is ticking, pandemic risk lingers on, and geopolitical conflicts and domestic political schisms are growing. There are no easy choices for policymakers and business leaders, and in turn, for investors.

GIC's long-term performance has remained resilient. As at 31 March 2022, for the 20-year period from 1 April 2002, the annualised US\$ nominal return of our portfolio was 7.0%. Adjusting for global inflation, the annualised 20-year real return stood at 4.2%.

The annual Net Investment Returns Contribution (NIRC) – which is derived from up to 50% of the investment returns from the Monetary Authority of Singapore (MAS), GIC, and Temasek Holdings – is a significant contributor to the government's budget. For FY2022, the NIRC is an estimated S\$21.6 billion¹.

A shift in the macroeconomic regime

The shift to a potentially high-inflation regime has significant investment implications. High inflation not only reduces real returns immediately, but its adverse impact on economic stability raises the risk premia on financial assets. Portfolio diversification will also be more challenging as few assets are spared from the effects



Lim Chow Kiat
Chief Executive Officer, GIC

**There are no easy
choices for policymakers
and business leaders,
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¹ Ministry of Finance (2022). *Analysis of revenue and expenditure: Financial year 2022.*

The low-carbon transition presents tremendous opportunities, as transition efforts are accelerating, and innovative sustainability solutions are emerging at scale.

of worsening inflation and slower economic growth.

While the increase in inflation caused by pandemic-induced supply disruptions and a strong recovery in demand should eventually fade, the reversal of the longer-term drivers of disinflation is concerning. Secular disinflationary forces in the last three decades, including productivity gains from the globalisation of labour and trade, favourable demographics, and the inflation-fighting credentials of central banks, are dissipating. Disinflationary tailwinds may be turning into inflationary headwinds.

Such a development would reverse the gains made in GIC's first 40 years. GIC was founded in 1981 – a year when inflation in the US approached 10% and long-term interest rates were 14%². Through the next 40 years, inflation and interest rates saw a secular decline. While there were cyclical fluctuations along the way, each cycle witnessed lower peaks in rates during expansions and lower troughs during recessions. A portfolio that was invested fully in bonds would have returned 3.4%³ in real terms.

Today, with continued low interest rates, the same hypothetical portfolio

is likely to earn just enough to beat inflation. Adding on riskier assets goes some way towards securing better real returns, but one must then contend with stretched valuations along with late-cycle dynamics that can impact profits. There are no straightforward solutions.

Advancing the low-carbon transition

The low-carbon transition is another major shift. Time is running out to take decisive action on climate change as highlighted by a series of reports published by the Intergovernmental Panel on Climate Change (IPCC) in recent months. A particular difficulty is the need to balance the trade-offs between the environmental and social impacts of the transition, especially in emerging markets.

Nevertheless, the low-carbon transition presents tremendous opportunities, as transition efforts are accelerating, and innovative sustainability solutions are emerging at scale. In the energy sector alone, capital needs will have to increase from US\$2 trillion to almost US\$4.5 trillion per year by 2050, according to the International Energy Agency (IEA)⁴. Investors and

businesses can take advantage of these opportunities.

Changing political dynamics

Finally, both domestic and international politics continue to fragment. Income inequality is polarising countries around the world, while intensifying rivalries between key economies are contributing to an increasingly fractured global power structure. The ensuing political and policy uncertainties are making business and investment planning for the long term difficult. If this continues, the resulting frictions and the potential decoupling of the global economy will raise business costs and lead to higher investment risks as well as lower investment returns.

Responding to continued uncertainties

Transitions are difficult to forecast and attempts to predict a specific outcome are not always helpful. A scenario where the global economy experiences a hard landing that pushes us back to a low-growth and low-inflation world is not beyond the realm of possibility. Likewise, the cumulative effect of technological progress and recent advances in

² Annual average headline Consumer Price Index (CPI) inflation was 10.3% in 1981 based on data by the Bureau of Labor Statistics. 10-year government bond yields – a proxy for long-term interest rates – reached 13.98% at the end of 1981 based on data by the Department of Treasury. Source: Macrobond.

³ Calculated based on the GIC Portfolio G10 nominal bonds benchmark. Benchmark data source: Bloomberg.

⁴ IEA (2021). *Net zero by 2050: A roadmap for the global energy sector*.

digitalisation could boost productivity and improve profitability, so a world of high-growth and low-inflation can also materialise. The outlook is exceptionally uncertain.

How is GIC responding to these challenges? We have doubled down on our core investment principles - a continued commitment to portfolio diversification, taking the long view, and the ability to prepare, not predict. As we navigate a world in flux, we remain clear about our strengths and limitations and are ready to pivot as new challenges and opportunities arise. Engaging in alternative scenario planning is one example of how we proactively identify and mitigate our exposure to market vulnerabilities. In addition, we continue to step up active management to maximise our value-add, increase our investments in inflation-resilient real assets, and deepen our partnerships.

To drive the low-carbon transition, we not only actively invest in new technologies, such as green hydrogen, carbon removal, and even nuclear fusion, but also engage with and support our investees' transition efforts. We divest as a last resort. Ultimately, we seek to accelerate the decarbonisation of the real economy.

We are also strengthening partnerships with like-minded actors across both the public and private sectors to catalyse meaningful climate action and collaboration, and address challenges related to climate finance and regulation, as well as ESG data and standards. As an example, GIC, together with 12 members of the Asia Investor Group on Climate Change (AIGCC), joined the Asian Utilities Engagement Program in 2021 to support utility companies in Asia in their decarbonisation journeys. This is a crucial initiative given that Asian utilities account for almost a quarter of the world's total carbon emissions.

In addition, we have established a dedicated Sustainability Office to continue advancing the holistic integration of ESG across our investment and corporate processes, and strengthen our research on critical sustainability issues.

Strategy, however, matters little without effective execution, and in execution, human talent is the key ingredient. We recognise the importance of developing a diverse and capable pool of talent that is committed to our purpose and aligned with our values, and we have

dedicated the feature article of this year's annual report to this topic.

Serving the needs of our communities and employees

As part of our wider purpose, we serve the interests of a wider group of stakeholders including the communities around us and our employees who are at the heart of delivering our mandate. Last year, in celebration of our 40th anniversary, GIC staff across all our offices came out in full force to care for the community through our environmental and social impact initiatives. We were heartened to see the bonds forged through our employee and community engagement programmes, such as Celebrate OneGIC and With Love, GIC, which we will continue beyond our anniversary year.

We are also excited to open our 11th office in Sydney this year, which signals our continued commitment to strengthening our international presence and partnerships.

In addition, I would like to express my heartfelt gratitude to our outgoing Chief Technology Officer, Ms Wu Choy Peng, for her

contributions to GIC in strengthening and scaling GIC's data and technology infrastructure and capabilities.

Committing to investing with purpose and responsibility

Growing protectionism and distrust reduce cooperation and are especially detrimental to the collective actions required to tackle global challenges such as inflation, climate change, and geopolitical fragmentation.

GIC will continue to adapt to the changing realities while remaining anchored to our mandate, values, and investment principles. We remain committed to investing with purpose and responsibility, and to making a positive impact on the world and communities we operate in.



Lim Chow Kiat
Chief Executive Officer, GIC

Welcome



[Ms Jeanette Wong](#) was appointed to our GIC Risk Committee on 1 October 2021.

She was Group Executive at DBS Bank.



[Ms Tracey Woon](#) was appointed to our GIC Investment Board on 1 October 2021.

She was Vice Chairman of Global Wealth Management (Asia Pacific) at UBS AG.



[Dr Mark Machin](#) was appointed to our International Advisory Board with an advisory role to the Investment Strategies Committee on 1 April 2022.

He is a board member of Serendipity Capital.

Thank you

Board Committee Appointments

Senior Leadership Movements



It has been our privilege to benefit from the insights and expertise of [Mr Chew Choon Seng](#), who stepped down from the GIC Board in January 2022 after 18 years of service. Mr Chew was the inaugural Chairman of the Audit Committee and a member for the Human Resource & Organization Committee.

On 15 January 2022, we welcomed new appointments for our board directors:

- [Mr Gautam Banerjee](#) as Chairman of the Audit Committee.
- [Mr Seck Wai Kwong](#) as member of the Audit Committee.
- [Mr Koh Boon Hwee](#) as member of the Human Resource & Organization Committee

On 1 April 2022, the following changes in leadership appointments took effect:

- [Mr Eric Wilmes](#) was appointed as President (Americas), taking over from
- [Mr Lim Kee Chong](#), who will return to Singapore Office after leading the Americas region for seven years. Kee Chong remains Deputy Group Chief Investment Officer and Director, Integrated Strategies Group.
- [Ms Wu Choy Peng](#) retired as Chief Technology Officer. We thank her for her years of dedicated service.

INVESTMENT REPORT

GIC's mandate is to preserve and enhance the international purchasing power of the reserves placed under our management by delivering good long-term returns above global inflation.

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2.1

Overview: Long-Term Investment Performance

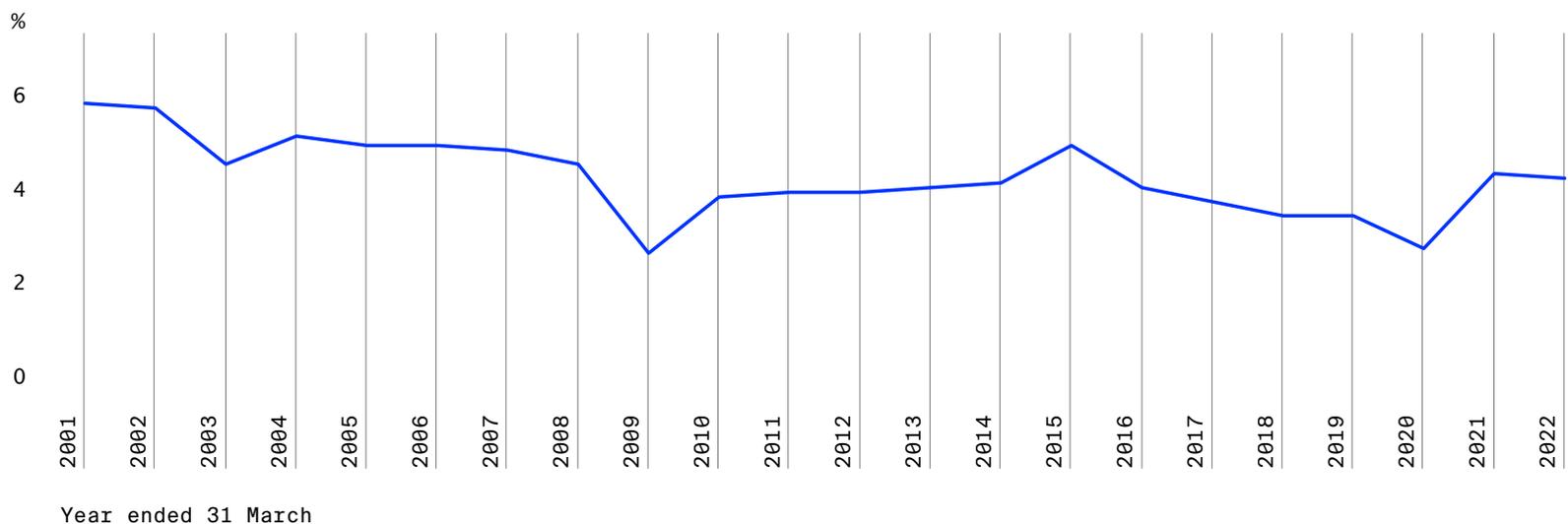
GIC's mandate is to preserve and enhance the international purchasing power of the reserves under our management over the long term. The primary metric for evaluating GIC's investment performance is the annualised rolling 20-year real rate of return.

The 20-year real return of the GIC Portfolio stands at 4.2%¹ this year, 0.1% lower than the previous year.

See the next page for more detail on the mechanics behind the calculation of the rolling 20-year return. With higher inflation, the role of generating real returns has become more critical and challenging. The section "Portfolio Diversification in an Environment of Resurgent Inflation" elaborates on our multi-pronged approach in a high inflation environment.

¹ An annualised rolling 20-year real return of 4.2% means that \$100 invested with GIC in 2003 would have grown to \$228 today, after taking inflation into account.

Figure 1. Annualised Rolling 20-Year Real Rate of Return of the GIC Portfolio since 2001



Understanding the Mechanics of the Annualised Rolling 20-Year Return

GIC reports our performance as an annualised 20-year real return, which is the average time-weighted portfolio return over that period. A time-weighted return² essentially measures the fund manager’s ability to generate returns as it removes the impact of cashflows into or out of the portfolio and directly attributes the performance to the investment decisions made by the portfolio manager.

The return figure is a rolling return, which means that last year’s 20-year

return spanned the period 2002 to 2021, while this year’s 20-year return spans 2003 to 2022, and next year’s return will span 2004 to 2023. For each new year added, the earliest year is dropped out of the measurement window. The change in this rolling return figure is therefore determined by the return from the earliest year that drops out and the latest year that is added.

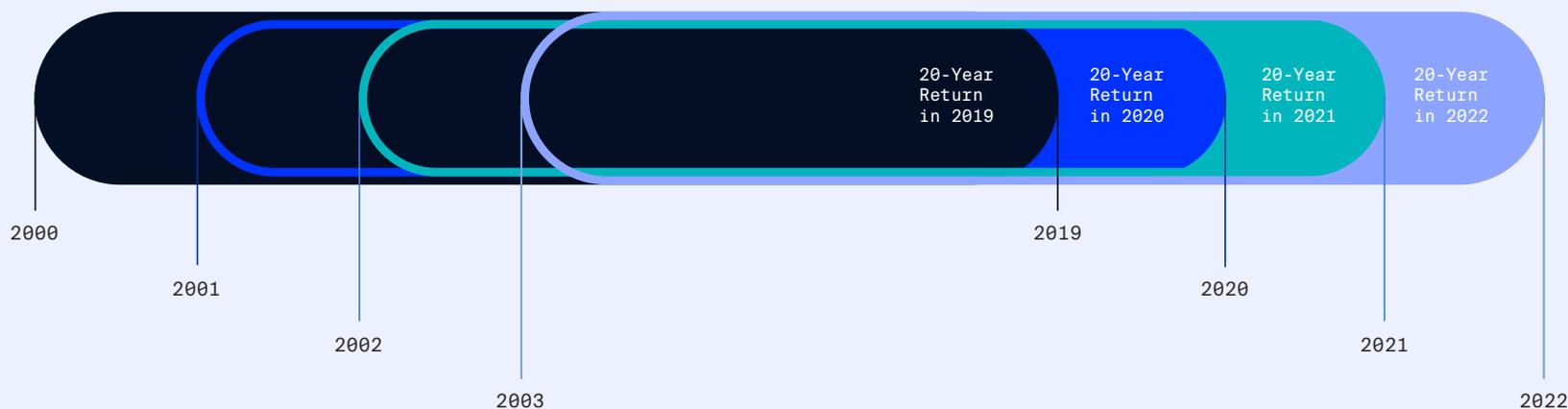
Even though the rolling 20-year real rate of return is intended to measure returns over the long term, it can still

reflect a significant cyclical element. This is particularly evident when the cycles are very pronounced at the start or end of the 20-year window. For example, a 20-year period from 1999 to 2018 would include both the sharp rise in valuations resulting from the dot-com boom in 1999 and 2000 and the subsequent bust in 2001, whilst a 20-year period from 2001 to 2020 would be negatively affected by the large decline in asset prices from the dot-com bust in 2001.

Over the long term, GIC’s performance is largely driven by the dynamics of the global economy and our Policy Portfolio, which determines our asset allocation strategy. Skill-based strategies undertaken by our active strategy investment teams seek to add returns above market benchmarks. In total, we strive to achieve good and sustainable long-term returns for the GIC Portfolio across a broad range of economic scenarios, within the risk parameters set by the Client. This is described in greater detail in the chapter ‘Managing the Portfolio’.

We strive to achieve good and sustainable long-term returns for the GIC Portfolio across a broad range of economic scenarios, within the risk parameters set by the Client.

Figure 2. Illustration of a Portfolio’s Rolling 20-Year Return



² A time-weighted return measures the total rate of return over a specific time period by compounding the returns across multiple sub-periods.

2.2

Navigating Ongoing Risks

In 2021, the global economy recovered from the sharp economic downturn experienced in 2020. It grew an estimated 6.1%³ on the back of unprecedented monetary and fiscal support, pent-up demand from consumers, and improved vaccine access. This occurred against a challenging backdrop – a resurgence of the pandemic driven by more contagious new variants, ongoing supply disruptions, and broad-based inflation pressures.

The rise in inflation in the US and many emerging market economies has led to rises in global interest rates as central banks tighten monetary policies and markets price in faster policy normalisation. Equity markets have seen a differentiated performance. The pace and magnitude of both corrections and recoveries in equity prices have varied across regions, countries, and sectors. Performance varied depending on valuation levels, the level of success in controlling

COVID-19, the size and efficacy of fiscal and monetary support, the extent of supply chain disruptions, the pandemic's impact on specific sectors, and the regulatory environment.

Russia's invasion of Ukraine adds further risks. The war and its consequences injected further uncertainty into geopolitics, prices, and food and energy security at a time when the global economy has yet to fully recover.

Our diversified portfolio and cautious investment stance helped to cushion GIC's performance from the market correction in early 2022. This posture was held throughout FY2021/22, given elevated asset valuations and uncertainty arising from potential inflationary pressures. We have kept our emphasis on being prepared for multiple scenarios, maintaining price discipline, adding optionality, and expanding our bottom-up investment activities.

We have kept our emphasis on being prepared for multiple scenarios, maintaining price discipline, adding optionality, and expanding our bottom-up investment activities.

3
Source:
[IMF, World Economic Outlook, April 2022](#)

2.3

The GIC Portfolio

Over the year ending March 2022, the share of developed and emerging market equities and nominal bonds and cash fell, in line with the broader market conditions described earlier. In keeping with the Policy Portfolio adopted in 2013, we have continued to gradually increase the share of

private equity and real estate, aided by robust deal activity and strong asset performance.

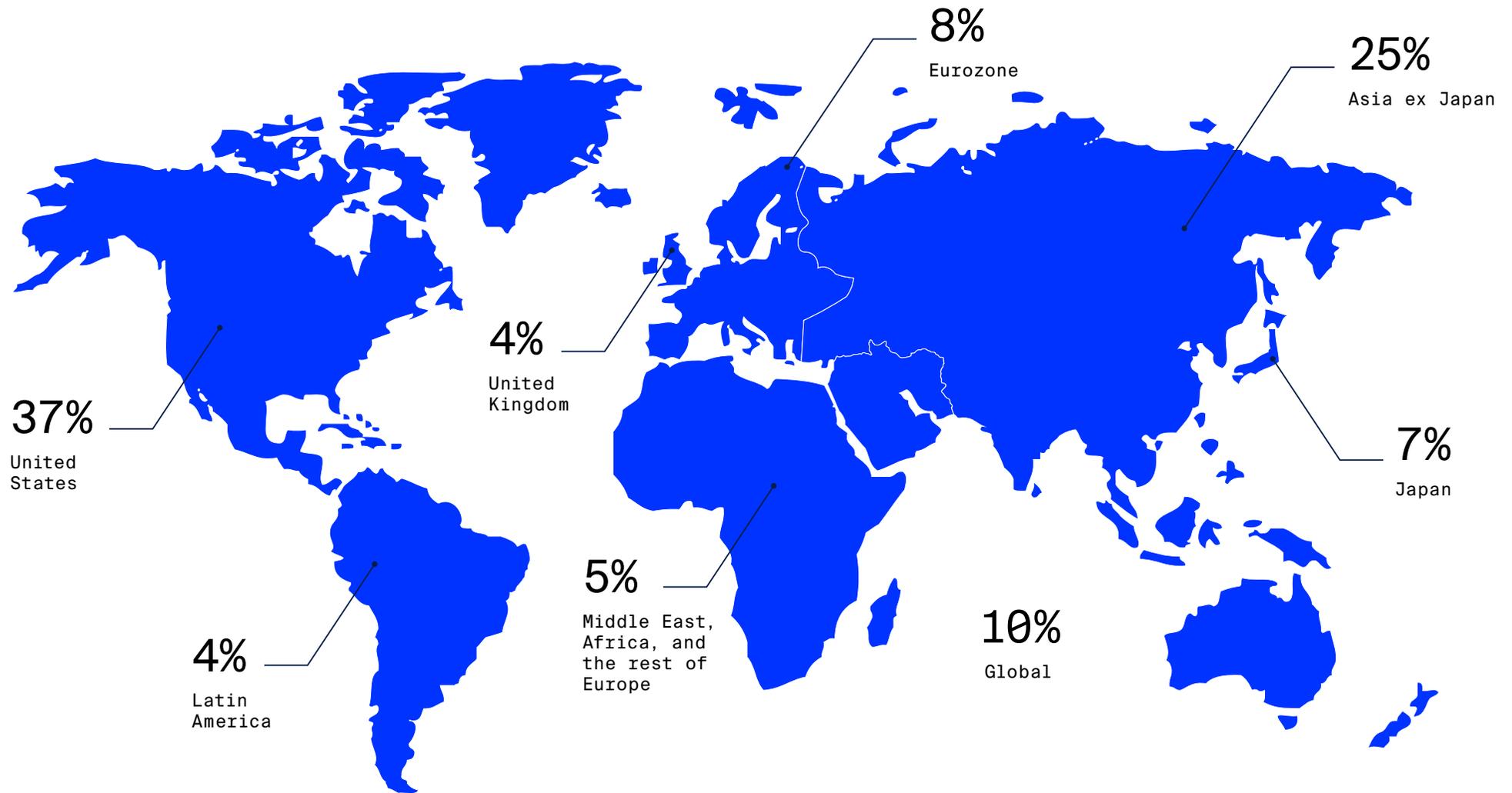
The geographical distribution of the GIC Portfolio as at 31 March 2022 is set out in Figure 3 on the next page. This reflects the global

market composition of our asset allocation strategy and bottom-up opportunities sourced by our investment teams worldwide. While we do not allocate our assets by geography, we monitor our exposures across them.

Table 1. Asset Mix of the GIC Portfolio

Asset Mix	31 March 2022 (%)	31 March 2021 (%)
Developed Market Equities	14	15
Emerging Market Equities	16	17
Nominal Bonds and Cash	37	39
Inflation-Linked Bonds	6	6
Real Estate	10	8
Private Equity	17	15
Total	100	100

Figure 3. Geographic Mix of the GIC Portfolio as at 31 March 2022



2.4

Intermediate Markers of Investment Performance

While the primary metric for tracking GIC's investment performance is the rolling 20-year return above global inflation, we also monitor our ongoing intermediate investment performance. Table 2 shows the nominal (i.e. not adjusted for inflation)

USD returns over 10 years and five years and the corresponding portfolio volatility. We include 20-year nominal numbers for completeness here⁴.

Over the 20-, 10- and 5-year periods, the GIC Portfolio returned 7.0%,

6.4%, and 7.7% in nominal USD terms respectively, in line with the broader asset markets. The 5-year return was boosted by the strong market recovery in FY2020/21 and early FY2021/22, despite the corrections towards the end of FY2021/22.

⁴ GIC's primary performance measurement metric is the rolling 20-year real rate of return, which we described earlier in this chapter.

Table 2. Nominal Annualised Return and Volatility of the GIC Portfolio
(in USD, for periods ending 31 March 2022)

GIC Portfolio

Time Period	Nominal Return ⁵	Volatility ⁶
20-Year	7.0%	8.7%
10-Year	6.4%	6.6%
5-Year	7.7%	6.5%

⁵ The GIC Portfolio rates of return are computed on a time-weighted basis, net of costs and fees incurred in the management of the portfolio.

⁶ Volatility is computed using the standard deviation of the monthly returns of the GIC Portfolio over the specified time horizon.

We also monitor the performance of a Reference Portfolio which comprises 65% global equities and 35% global bonds⁷. The Reference Portfolio is not a performance benchmark for the GIC Portfolio but represents the risk the Client is prepared for GIC to take in generating good long-term investment returns. On occasions when GIC is more risk averse than the risk profile of the Reference Portfolio, such as when market exuberance leads to heightened valuations, GIC may lower our risk exposure. Conversely, GIC may increase our

risk exposure when the opportunity arises. This is part of a disciplined and professional approach to long-term value investing. Given high valuations, weakening fundamentals, and rising market uncertainty, GIC reduced risk-taking before 2020 in markets that were assessed to be overvalued, and this posture has continued into FY2021/22.

Table 3 shows the nominal USD returns over 20 years, 10 years, and five years and the corresponding volatility for the Reference Portfolio⁸.

Over all three time periods, and particularly over the last five years, the GIC Portfolio had lower volatility than the Reference Portfolio due to its diversified asset composition and pre-emptive measures to lower portfolio risk in recent years. Over a 20-year period, the GIC Portfolio saw a similar return but with much lower risk than the Reference Portfolio. This reflects the value of our long-term investment approach and mandate, which is to first protect and then grow the reserves under our management.

7 The Reference Portfolio was adopted from 1 April 2013, and reflects the risk that the Government is prepared for GIC to take in its long-term investment strategies. It comprises 65% global equities and 35% global bonds. For more details, please refer to the chapter 'Managing the Portfolio'.

8 The figures exclude adjustments for costs that would be incurred when investing.

9 The Reference Portfolio rates of return are provided on a gross basis, i.e. without adjustment for costs and fees.

10 Volatility is computed using the standard deviation of the monthly returns of the Reference Portfolio over the specified time horizon.

Table 3. Nominal Annualised Return and Volatility of the Reference Portfolio (in USD, for periods ending 31 March 2022)

Reference Portfolio		
Time Period	Nominal Return ⁹	Volatility ¹⁰
20-Year	7.0%	10.8%
10-Year	7.3%	9.2%
5-Year	8.5%	10.5%

Portfolio Diversification in an Environment of Resurgent Inflation

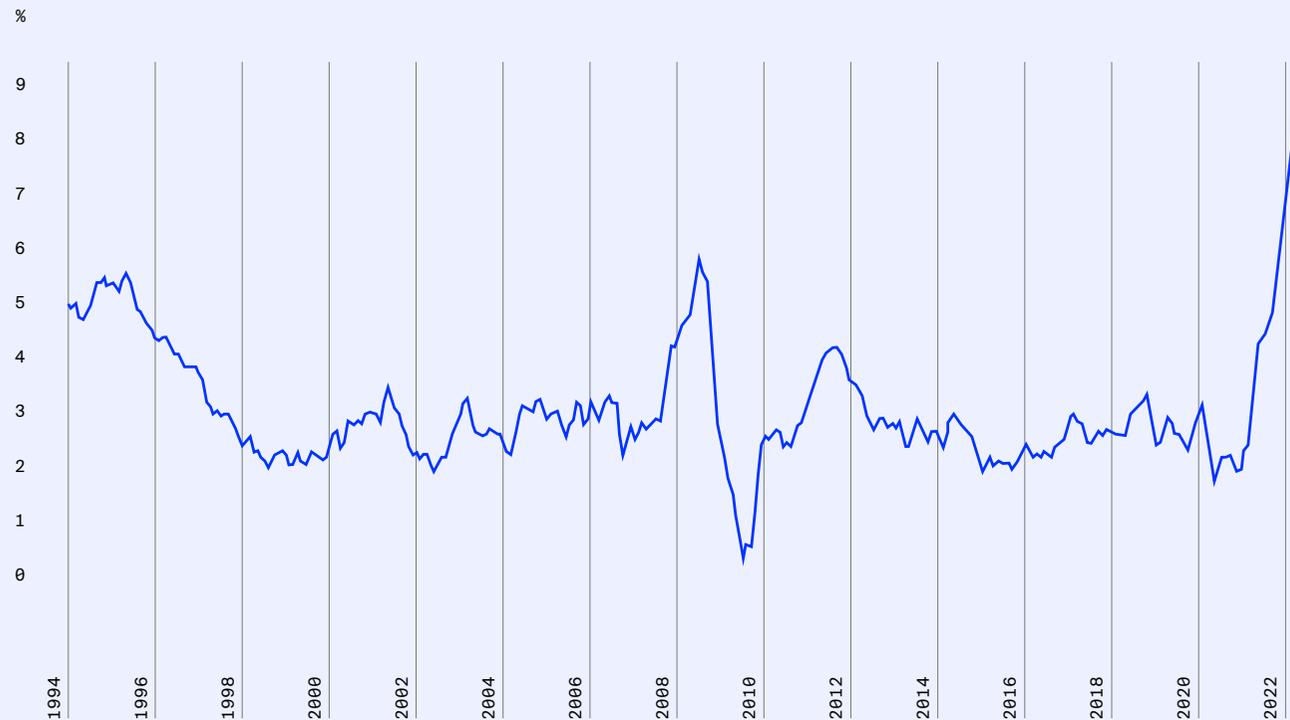
The resurgence of inflation has been a key theme shaping the global investment environment. It is especially important for GIC given our mandate to preserve and enhance Singapore's international purchasing power for the foreign reserves that we manage.

The increasing rate of inflation is due to both global and domestic factors. On the global front, supply disruptions in the semiconductor industry and a negative supply shock on energy prices from Russia's invasion of Ukraine have led to higher inflation across many countries. On the domestic front, the job markets of major economies have tightened significantly. Demand for labour has exceeded supply partly due to COVID-related job disruptions or even early retirements in some cases. Such demand leads to higher wages, which is passed down to consumers. Importantly, consumer expectations of higher inflation can drive up prices of goods and services, as well as expectations for further wage rises.

Major Shifts in the Investing Environment

Stagflation – the portmanteau of stagnation and inflation – is a particularly adverse environment where inflation is accompanied by anaemic growth. Unemployment rises, real incomes fall, and businesses' profit margins deteriorate. Asset prices similarly suffer. For example, during the stagflationary 1970s, a balanced portfolio of equities and bonds experienced a decade of zero real returns. While the

Figure 4. Global Inflation



Source: Macrobond, GIC Calculations

The resurgence of inflation is especially important for GIC given our mandate to preserve and enhance Singapore's international purchasing power for the foreign reserves that we manage.

macro backdrop is unlikely to be as dire as what we experienced then, equities, especially in the US, may be more vulnerable today given their extended high valuations. Furthermore, with high inflation comes higher inflation volatility and inflation risk premiums to financial assets. The correlation between equities and bonds can turn positive, which makes it harder to achieve portfolio diversification.

Central banks have started tightening monetary policy rapidly to temper the acceleration of inflation, but the tradeoff is that growth deteriorates in the process. Ideally, the tightening brings inflation down towards target while avoiding a recession, but the chances of such a scenario coming to fruition are slim. High and persistent inflation requires a larger dose of tightening, leading to more adverse growth outcomes, and any re-prioritisation of growth thereafter

could leave inflation elevated and bring about stagflation.

As the environment changes, diversifying our portfolio and engaging in alternative scenario planning remain at the heart of our portfolio construction philosophy. We continue to increase our investments in real assets such as real estate and infrastructure, which offer protection against inflation. These assets have also generally outperformed

nominal bonds in a high-inflation environment. Within equities, we have increased our allocation to certain high-growth asset classes, such as private equity, that can provide returns that keep pace with elevated inflation. At the same time, we continue to explore a broad range of alternative strategies that could help us to achieve our mandate of generating good long-term returns over the rate of inflation.

Figure 5. Global 3-year Rolling Equity/Bond Correlation in Monthly Returns



Source: Macrobond, GIC Calculations

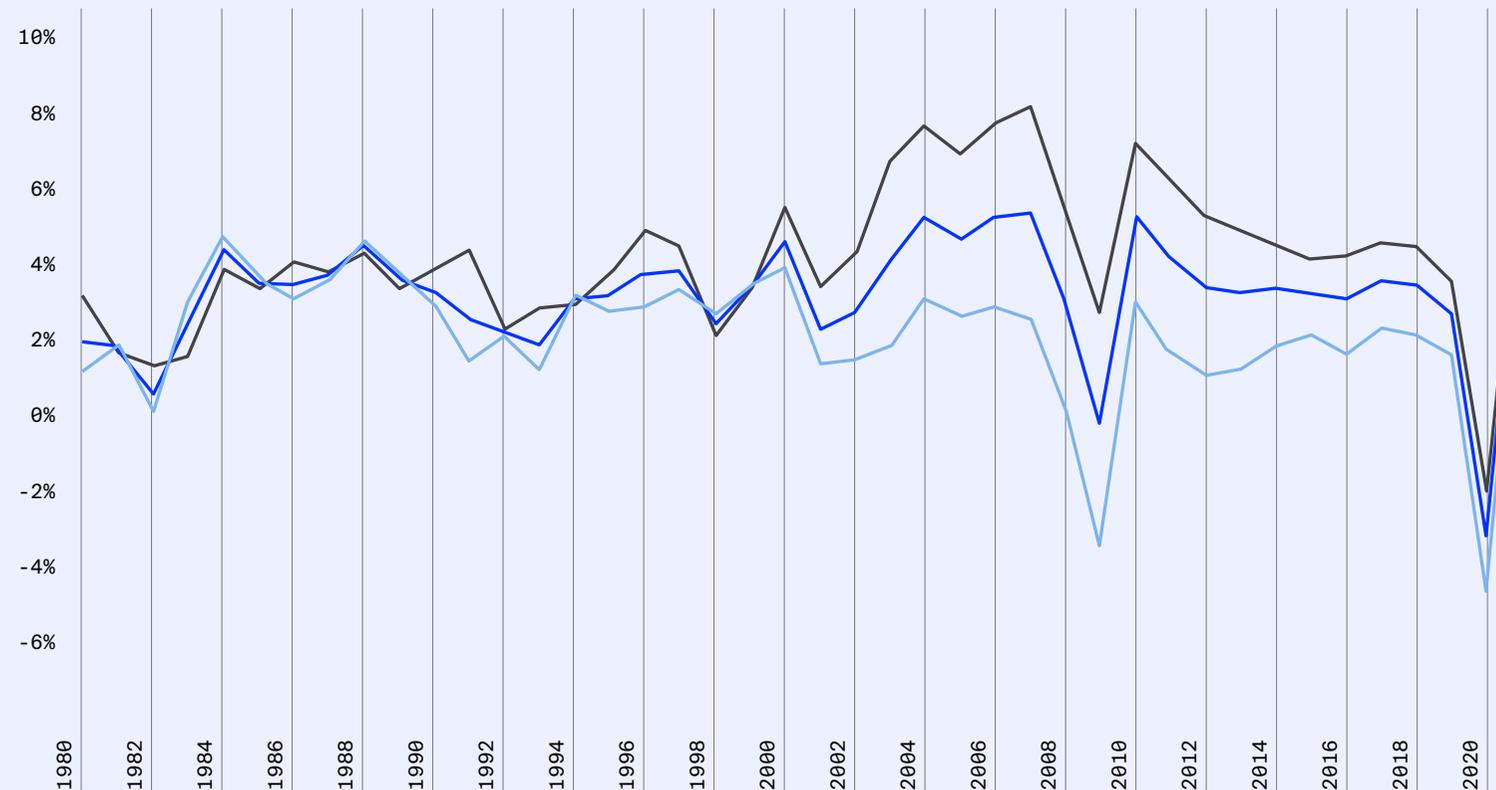
As the environment changes, diversifying our portfolio and engaging in alternative scenario planning remain at the heart of our portfolio construction philosophy. We continue to increase our investments in real assets such as real estate and infrastructure, which offer protection against inflation.

Investing in a World of Transition

In 2021, the recovery in economic activity on the back of vaccine rollouts and reopenings (see Figure 6) brought with it challenges such as a significant increase in inflation across advanced and emerging economies. This was driven by COVID-related supply disruptions, a rapid recovery in demand for certain goods, and rising wages.

Since early 2022, geopolitical tensions have risen with Russia's invasion of Ukraine.

Figure 6. Gross Domestic Product



Source: IMF

The conflict has broader global economic implications through the increase in prices of a wide range of commodities that Russia and Ukraine are important global producers of (see Figure 7). In addition, the build-up in inflationary pressures and reduced risk appetite have tightened financial conditions. Finally, the crisis has injected further uncertainty into the outlook, with business and consumer sentiment impacted by rising cost pressures and the prospect of continuing geopolitical conflict.

The combination of these factors has increased the risk of a stagflationary environment materialising in the coming years. Central banks face a dilemma as they need to manage low-growth and high-inflation risks. For now, most central banks have zoomed in on the inflation risk, which was already a growing concern prior to Russia's invasion of Ukraine. Together with the other growth headwinds from the crisis, this could precipitate a global economic slowdown in the coming years.

Figure 7. Brent Crude US\$ per barrel



Source: Refinitiv Datastream

Figure 8. Cycle-Adjusted Price-to-Earnings Ratio



Source: Refinitiv Datastream

While equity markets are increasingly pricing in rising cyclical risks, they are not discounting outright recession and/or a deeper, protracted military conflict. This adds to an already challenging starting point for risk assets, which is characterised by (i) low medium- and longer-term asset return potential given still low interest rates by historical standards and high valuations, especially for US equities (see Figure 8), and (ii) heightened uncertainty about the outlook.

Recent Developments have Reinforced Secular Challenges and Opportunities

Beyond the cyclical horizon, there are secular trends that have been reinforced by developments over the past few years related to COVID-19 and the flare-up in geopolitical tensions.

COVID-19 is transitioning from pandemic to endemic. While the severity of health outcomes may reduce, it is likely that we will have to live with COVID-19 on a permanent basis. This is in good part because:

- Vaccinations do not offer full protection;
- There is a lack of access to vaccines in some countries; and
- Vaccine hesitancy remains prevalent.

There is also the risk of the emergence of new variants of the current virus as well as of other pandemics over time. Consequently, there is likely to be an extension of existing trends, including:

- A strong emphasis on healthcare spending, preparedness, and innovation;
- Continued diversification of global supply chains;
- Hybrid work arrangements and increased online consumption; and
- Progressive automation of work processes.

The prospects of globalisation have also been dimmed by the increased rivalry among major economies and growing domestic resistance

to globalisation because of the perceived unequal distribution of the gains from trade and cross-border investment. In an adverse scenario, this could cause a polarisation of the global economic ecosystem. It can however come with investment opportunities related to needs such as geographical redistribution of supply chains. Investors, more than ever, will need to skilfully navigate increasingly stormy weather on the geopolitical front.

Technological advancement will remain an important secular trend and has been turbo-charged in recent years by the challenges imposed by COVID-19. This has been reflected in a significant increase in corporate spending on technology. Technology will be an important source of economic growth and investment opportunities in virtually every sector. However, it also further disrupts jobs, companies, and sectors. These differing dynamics offer opportunities for investors but also place more emphasis on the ability to identify winners and losers from the technological transition.

Pressures to reduce inequality of incomes and opportunities are another secular trend. COVID-19 has brought this to the fore by causing disproportionate adverse health and economic impact on lower-income households, regions, and countries. Digitalisation and automation could further add to inequality. There will be rising political pressures to address these challenges, which in some cases may reinforce current trends towards greater populism. Investors therefore need to be mindful of how inequality impacts countries and companies that they invest in.

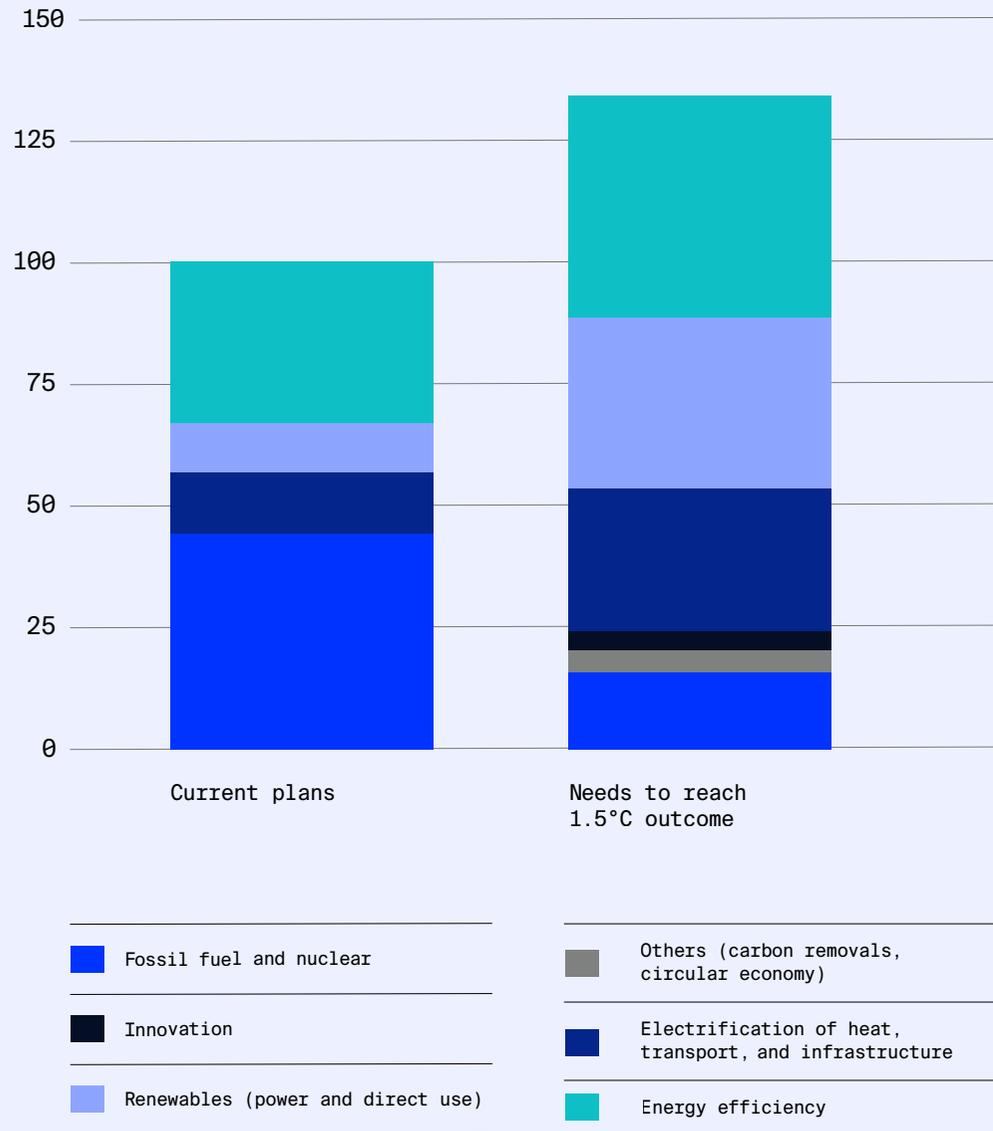
Technological advancement will remain an important secular trend and has been turbo-charged in recent years by the challenges imposed by COVID-19.

On the broader issue of sustainability, the transition towards a low-carbon economy offers positive societal, intergenerational impact, as well as prospective investment returns. The physical impact arising from anthropogenic climate change has been evident from the increase in frequency and severity of the extreme weather events that we have witnessed in recent history¹¹. Voters and consumers are asking for more action, and regulators and companies have begun to respond. Decarbonising the real economy is an existential issue, and considerable investment will be needed (see Figure 9). In this context, it is important for investors to identify both the beneficiaries and losers from the transition.

We expect to see continued uncertainty as these secular trends unfold. We will stay anchored in our mandate, values, and investing principles by emphasising diversification, maintaining a long-term approach, building optionality, pursuing bottom-up opportunities, and adding value to our investments.

On the broader issue of sustainability, the transition towards a low-carbon economy offers positive societal, intergenerational, as well as prospective investment returns.

Figure 9. Total Investments by Technology 2021-50 (US\$ trillion)¹²



Source: IRENA¹³, GIC Calculations

¹¹ Source: IPCC, 2022: *Climate Change 2022: Impacts, Adaptation, and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegria, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press. In Press.

¹² IRENA estimates that under the 1.5°C Scenario there will be (i) a scale-up of investment from US\$98 trillion under current plans to an estimated US\$131 trillion and (ii) a redirection of investments from fossil fuels towards energy transition technologies between 2021 and 2050. The 1.5°C Scenario describes an energy transition pathway aligned with limiting the global average temperature increase to 1.5°C by 2050.

¹³ Source: IRENA (2021), *World Energy Transitions Outlook: 1.5°C Pathway*, International Renewable Energy Agency, Abu Dhabi.

MANAGING THE PORTFOLIO

GIC's investment strategy is to build a portfolio of asset classes and strategies that generates good long-term real returns, while adhering to the Client's (the Singapore Government) risk parameters.

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3.1

Overview:

Our Portfolio and How We Manage It

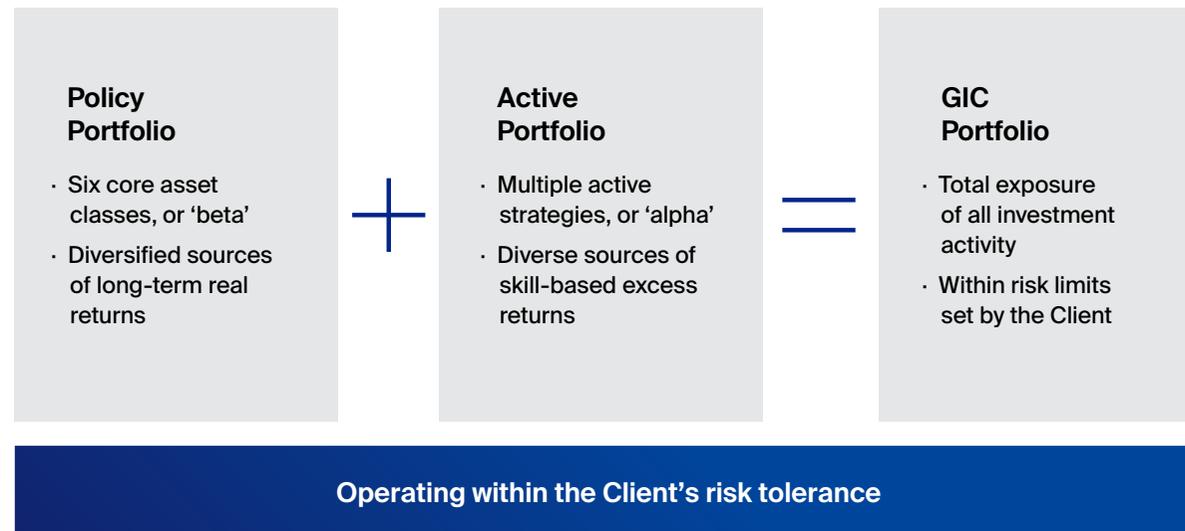
Our mission is to preserve and enhance the international purchasing power of the reserves placed under our management by delivering good long-term returns above global inflation.

In 2013, we established an investment framework to help guide

us in an increasingly complex and challenging investment environment. This framework maximises GIC's strengths, including our long investment horizon, significant capital pool, global reach, best-in-class capabilities, and robust governance structure.

Our mission is to preserve and enhance the international purchasing power of the reserves placed under our management by delivering good long-term returns above global inflation.

Figure 1. GIC's Investment Framework



3.2

Building the Portfolio

The Client owns the funds that GIC manages and decides on the overall risk that the GIC Portfolio can take in pursuit of good long-term returns.

GIC's investment process begins with the Policy Portfolio, which defines the key asset classes that drive the GIC Portfolio's long-term returns. The Active Portfolio aims to add value to the Policy Portfolio through skill-based, active strategies, while preserving the exposure to systematic market risks. Together, the Policy Portfolio and Active Portfolio form the GIC Portfolio.

Policy Portfolio: Key Investment Driver

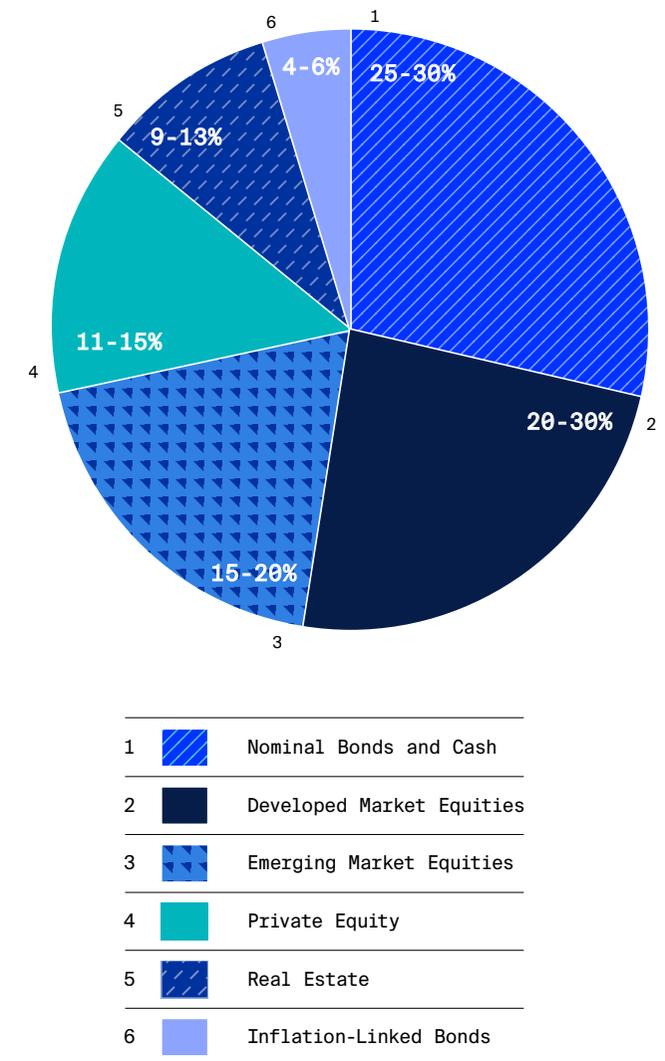
The Policy Portfolio represents GIC's asset allocation strategy over the long term. It accounts for the bulk of the risk and return potential of the GIC Portfolio and seeks to balance the way different asset classes respond to different economic environments.

The Policy Portfolio comprises six asset classes: Developed Market Equities, Emerging Market Equities,

Nominal Bonds and Cash, Inflation-linked Bonds, Private Equity, and Real Estate. Diversification enables the Policy Portfolio to generate good, risk-adjusted returns over a 20-year period.

The Policy Portfolio has a long investment horizon and is generally maintained through market cycles. GIC's approach to rebalancing ensures we keep to the allocated ranges of asset classes in the Policy Portfolio. Rebalancing involves systematically buying assets that have decreased in price and selling assets that have increased in price to keep the asset composition in our portfolio steady over time. When an asset class such as equities does particularly well, the rebalancing rule compels us to sell. Conversely, when equities do poorly, such as after the burst of an economic bubble, rebalancing calls for us to buy. There will be rare occasions when GIC adjusts our Policy Portfolio's asset allocation temporarily in response to medium-term dislocations in the global investment environment in particular assets or in countries.

Figure 2. Asset Class Distribution in the Policy Portfolio



Each active strategy is funded by the sale of a Policy Portfolio asset class or combination of asset classes with a similar overall risk profile.

Active Portfolio: Skill-Based Strategies

The Active Portfolio comprises a group of investment strategies that adds value to the Policy Portfolio while broadly maintaining the same level of systematic risk.

‘Alpha’ is the additional return achieved by active strategies over and above passive buy-and-hold

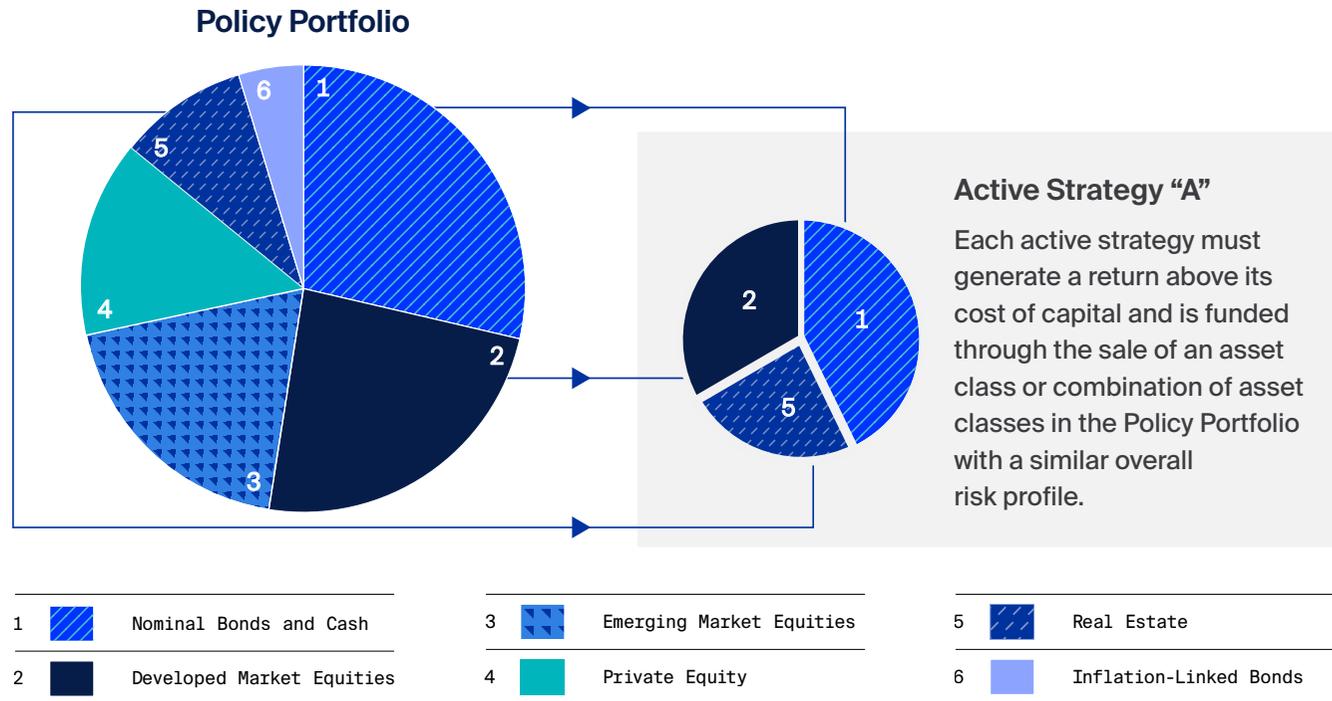
market returns (or ‘Beta’). At GIC, active alpha activities are separated from beta activities to manage different risk and return drivers clearly. GIC’s alpha activities aim to earn returns from our teams’ skills and competitive advantages.

Each active strategy is funded by the sale of a Policy Portfolio asset class or combination of asset classes with a similar overall risk profile.

This funding is the cost of capital for the active strategy, over which the strategy is required to generate additional returns. For example, active strategies designed to outperform public equities are funded from passive public equity holdings in the Policy Portfolio. This way, passive investments in the Policy Portfolio are replaced by an active strategy with the potential for greater returns without increasing the systematic risk of the portfolio.

Figure 3. Construction of an Active Strategy from the Policy Portfolio

The illustrative active strategy “A” has a similar overall risk profile as the weighted combination of three asset classes - Developed Market Equities, Nominal Bonds, and Real Estate. Strategy “A” is therefore expected to generate a return above that of the combination.



The GIC Board sets an active risk budget that the GIC Management can use for its alpha strategies. These strategies are stress-tested so we can understand and quantify their performance under various extreme but plausible market conditions, including macroeconomic and geopolitical events. The active risk budget establishes the total level of risk for the Active Portfolio. For example, marketable alternatives or hedge funds typically invest in liquid markets and vary their market exposures via a combination of long and short positions, depending on market conditions. The risk and return profile of this strategy is similar to a combination of Developed Market Equities as well as Nominal Bonds and Cash and will be funded by these asset classes.

GIC Portfolio

Through the Policy Portfolio and Active Portfolio, the GIC Portfolio is diversified across asset classes and strategies, each with a different risk and return profile. Growth assets and strategies, such as equities, generate higher returns, but are riskier. Defensive assets and strategies, such as sovereign bonds, offer lower returns for lower risk and protect the portfolio in market

downturns. We optimise and allocate across asset classes and strategies, integrating the best possible sources of alpha and beta using a holistic total portfolio perspective.

The GIC Portfolio is constructed to be resilient across a broad range of possible market and economic conditions, while generating good returns above global inflation in the long term.

Principles of Portfolio Construction

In GIC, portfolios are constructed to give them the best chances of achieving their intended purposes over appropriate horizons and within appropriate risk limits. For the GIC Portfolio as a whole, this means achieving good long-term returns over 20 years while limiting potential downside over the shorter term.

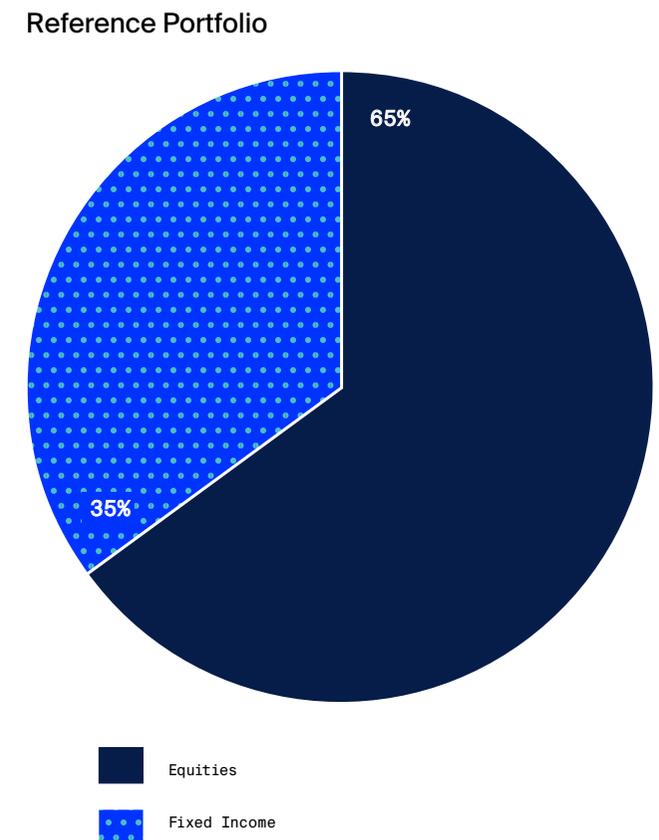
In GIC, portfolio construction is founded on the following principles that define the fundamental basis upon which we allocate capital:

1. **Playing to one's strengths** – We allocate to asset classes and active strategies within the GIC Portfolio according to our investment capabilities.

This means putting more capital in areas where we think GIC has better access to market opportunities, better understanding and ability to structure and manage the investments, and greater confidence that our investment theses will play out.

2. **Portfolio diversification** – This starts with a clear understanding of the real underlying risks of each investment in various scenarios. We then put together different combinations of investments in various amounts and stress-test their overall risk. Finally, we choose the portfolio combination that abides by our risk limits even in bad scenarios and gives us the best prospective return. Such a portfolio will invariably be diversified to a large extent, taking advantage of the fact that risks are not perfectly correlated and therefore work best in combination rather than in concentration.
3. **Disciplined and judicious portfolio management** – It is important to ensure that ongoing management of investment portfolios is disciplined and based on good analysis and judgment. The GIC Portfolio is rebalanced regularly to

Figure 4. Distribution of Asset Classes in the Reference Portfolio that Characterises the Client's Risk Preference



preserve the intended asset class mix. Actively managed portfolios are reviewed regularly in light of changing market conditions and developments in our active management capabilities.

Operating Within the Client's Risk Tolerance

GIC's client is the Government, who owns the funds that GIC manages and has characterised its risk preference using a portfolio of 65% global equities and 35% global bonds ("65-35"). We refer to this as the Reference Portfolio. The Reference Portfolio is not a benchmark but an expression of the overall risk that the Client is prepared for the GIC Portfolio to take.

GIC's investment strategy is to build a portfolio comprising asset classes that can generate good long-term returns above global inflation while adhering to the Client's risk parameters. There will be differences in exposures and the level of risk between the GIC Portfolio and the Reference Portfolio. GIC allocates to a better diversified range of assets beyond just equities and bonds. We may also adjust our level of risk in times of market exuberance or when significant opportunities arise. This is

all part of a disciplined, professional approach to long-term investing.

Governance of the Investment Framework

The investment framework encapsulates the various long-term risk and return drivers for GIC. It also reflects the responsibilities of the GIC Board and Management. The Reference Portfolio characterises the Client's risk appetite, while the GIC Board approves the Policy Portfolio that is designed to deliver good long-term returns. The GIC Management is empowered to add value within the Client's risk tolerance through the Active Portfolio which comprises active, skill-based strategies.

The Investment Board provides an independent layer of oversight on GIC's active investment management and process. Investment Board members come from the private sector and are not necessarily on the GIC Board. Together, they offer extensive experience in various types of investments across geographies. The Investment Board ensures that GIC invests in a sound and disciplined manner. It also ensures that GIC takes into account potential reputational risks arising from investment activities.

The table below summarises the governance of the investment framework:

Responsibility	
GIC Board	<ul style="list-style-type: none"> Approves the Policy Portfolio and active risk budget.
Investment Strategies Committee	<ul style="list-style-type: none"> Reviews GIC Management's recommendations on the Policy Portfolio and active risk budget.
Investment Board	<ul style="list-style-type: none"> Oversees GIC's active strategies and large investments. Ensures GIC does not incur undue reputational risk in pursuit of returns.
Risk Committee	<ul style="list-style-type: none"> Advises the GIC Board on risk matters. Sets the overall direction of risk management policies and practices in GIC. Reviews significant risk issues arising from GIC's operations and investments.
GIC Management	<ul style="list-style-type: none"> Designs and recommends the Policy Portfolio. Adds value by constructing and managing the Active Portfolio within the Client's risk tolerance and GIC's mandate.
Investment Teams	<ul style="list-style-type: none"> Implement the Policy Portfolio and active strategies.

3.3

Investment Process

As a disciplined, long-term value investor, we take a systematic, patient, and diversified approach in seeking investment opportunities, differentiating between an asset's current price and its intrinsic value.

GIC's investing approach is underpinned by our discipline to distinguish price from value. In the short term, an asset's price is driven largely by market sentiment, while its value lies in its fundamental worth. Anchored by this perspective, we appraise value diligently and adhere to price discipline, even when it sometimes means going against prevailing market sentiment.

To determine where true fundamental value lies, we use both top-down and bottom-up analyses. We identify and assess drivers of long-term value as a core part of our investment process. In the top-down analysis, we review a country's macroeconomics,

politics, currency, and corporate governance culture, as well as sector fundamentals such as industry structure, drivers, and trends. This top-down approach is similar for both public and private markets.

Our bottom-up analyses are more varied and depend on the assets we invest in. For example, in public equities, we focus on the stock's fundamentals such as the company's business model and its competitive strengths, balance sheet, profitability, and management. In real estate, our teams conduct bottom-up analyses based on property-specific factors such as location, building quality, tenant mix, lease expiry profiles, and income stream outlook. Our value investing mindset is the common underlying principle.

In all our analyses, looking for value is key. To deliver good long-term returns, we consider all opportunities and risks that could

To deliver good long-term returns, we consider all opportunities and risks that could drive investment value in the long run.

drive investment value in the long run. These considerations, which include the track record, ability, and integrity of management teams and business practices, are integral to our investment process. We expect our investee companies to comply with applicable laws and regulations and apply appropriate corporate governance and stakeholder engagement practices. We also actively advocate long-term thinking in the wider community. We participate in initiatives such as Focusing Capital on the Long Term Global (FCLTGlobal), the International Forum of Sovereign Wealth Funds (IFSWF), and the Task Force on Climate-related Financial Disclosures (TCFD).

3.4

Technology Investments

As a long-term investor with a global network, GIC is well-placed to invest in technology companies across all stages of their life cycle. Our long-term orientation and flexibility in deploying capital across private, semi-private, and public spaces enable us to grow alongside them and is further enhanced by our multi-asset experience and global footprint. We capitalise on our broad exposure to curate purposeful connections between our partners for meaningful value creation. As technology continues to progress, reshaping industries and spawning new businesses, we refine our approach to finding good companies, technologies, and business models, and apply these to our investment and organisational strategies to give us a competitive edge in today's challenging environment.

Technology in our Portfolio

GIC has been investing in the technology space since our founding. We started with technology companies listed on the major stock markets and then expanded into venture capital funds when we opened our San Francisco office in 1986. We went into private venture capital earlier than most other institutional investors. Our technology investments also cover all stages of the financing lifecycle of a company – seed (start-up), venture capital (growth), and IPO/public equity (maturity and exit). This has enabled GIC to build strong partnerships with leading technology investment managers and founders over the years.

We are organised to cover both strategic positioning and ground level

investing. Our Technology Business Group comprises specialists from different asset classes and regions. It monitors and assesses industry trends and recommends GIC's overall technology portfolio size, composition, and partnership strategy. Our Technology Investment Group handles most of our early-stage investments through venture capital funds, co-investments, and direct investments. We also have sector specialists for public and private market investments.

Given the uncertain and rapid nature of technological disruption, we manage investment risk by diversifying our investments, maintaining a robust investment process, adhering to strict price discipline, understanding the risk-reward calculus, and sizing the investments.

Our long-term orientation and flexibility in deploying capital across private, semi-private, and public spaces enable us to grow alongside technology companies and is further enhanced by our multi-asset experience and global footprint.

We leverage our core strengths to invest in technology:

Core strengths to investing in technology

Long-Term Orientation

- Apply a long-term, fundamentals-based approach.
- Stay invested for the long term, including post-IPO for newer companies.

Broad Investment Mandate

- Invest directly and through external fund managers in start-ups, growth companies, pre- and post-listed companies.
- Flexibility in the capital structure, investment size, sub-sector, geography and duration of our investments.

Global Presence

- Local presence in innovation hubs such as Silicon Valley and Beijing, complemented by our global presence through nine other offices.
- Able to spot leads and lags across regions and capture unique opportunities.

Collaborative and Committed Partner

- Seek to be a lifetime partner and build multiple touch points with our investee companies.
- Share our insights and relationships with our investee companies and external fund managers.
- Through our Bridge Forum platform, we add meaningful value by curating connections between innovative companies and our global network of corporate leaders for potential business opportunities.

3.5

Technology and Data in GIC

At GIC, we have stepped up our operational capabilities to leverage technology more effectively to harness data, deepen insights, and sharpen our competitive edge when it comes to investing. Even then, the space continues to evolve with the consumption of increasing volume and differentiated types of data, the adoption of new quantitative analysis (including those based on machine learning) and the utilisation of quantitative insights within fundamental investment styles. To meet this changing environment, GIC has brought together quants, strats, technologists, and data scientists with the aim of increasing the use of data and analytics in our investment

process and decisions. This has meant increasing ingestion, analysis, and combination of data across all industries and asset classes to enhance investment decisions and investment processes. It has also resulted in technology-led initiatives, which include the linking of research environments across asset classes to enable the easier provision of data across departments as well as the standardisation of UI/UX and back-end infrastructure. These efforts allow GIC to harness the growing complexity and power of technology and data to enable an even more agile response to emergent scenarios and deal opportunities.

At GIC, we have stepped up our operational capabilities to leverage technology more effectively to harness data, deepen insights, and sharpen our competitive edge when it comes to investing.

3.6

Investment Implementation

At GIC, long-term portfolio construction and asset allocation are determined top-down by the Economics & Investment Strategy department, while individual investment opportunities are pursued by the bottom-up investment teams. Our core bottom-up investment groups are Public Equities, Fixed Income, Private Equity, Real Estate, and Infrastructure. In addition, our Integrated Strategies department evaluates and invests across public and private asset markets. Our External Managers department oversees external fund managers who supplement the expertise of our core internal investment groups, while the Portfolio Execution department and Investment Services teams further support the implementation of the investment decisions made.

We are open to investing in all countries outside of Singapore, but do not invest in countries that are subject to United Nations Security Council sanctions. We monitor our investee companies and exercise ownership rights, with the intent of preserving and enhancing long-term investment value and protecting the interests of the Client.

Table 1. Teams Involved in GIC's Investment Implementation Process

Asset Allocation

- **Economics & Investment Strategy**

Constructs long-term portfolio policy, undertakes medium-term asset allocation, and innovates alternative investment models.

Public Markets

- **Public Equities**
- **Fixed Income**
- **Portfolio Execution**
- **External Fund Managers**

Invests across developed and emerging markets in equities and fixed income, constructing a diversified portfolio to produce sustainable, risk-adjusted performance.

Private Markets

- **Private Equity**
- **Infrastructure**
- **Real Estate**
- **External Fund Managers**

Invests in opportunities that have the potential to generate high long-term real returns and the ability to diversify our portfolio.

Cross-Asset

- **Integrated Strategies**

Invests across public and private asset markets and in less conventional investment opportunities, develops thematic investment strategies, and actively expands GIC's network of relationships beyond traditional domains.

Investment Services

Supports public and private market investment activities.

Economics & Investment Strategy

The Economics & Investment Strategy department articulates GIC's strategic outlook, determines asset exposures and benchmarks, analyses and implements new return streams and investment models, and optimises the risk-reward of the GIC Portfolio. The department is responsible for GIC's long-term Policy Portfolio and medium-term asset allocation, as well as capital allocation to internal active strategies.

Investment Groups in Public and Private Markets

GIC invests in both public and private markets. In public markets, we invest in public equities in both developed and emerging markets, absolute return strategies (hedge funds), fixed income, and cash. We manage a diversified portfolio to produce good, risk-adjusted performance. In private markets, we invest in opportunities that have the potential to generate high long-term real returns and the ability to diversify the portfolio. Real estate and infrastructure assets, in particular, also serve as a hedge against inflation.

Public Equities

Our equity investing effort is carried out by a team of in-house research analysts and portfolio managers. The team is organised by regions (Developed Markets, Emerging Markets, Asia) and by product groups specialising in total return, relative return, and quantitative strategies. The team conducts in-depth due diligence and research to identify businesses with the potential to generate good long-term returns.

Fixed Income

The Fixed Income department is broadly organised along three areas: Global Macro, Global Credit, and Cross-asset Systematic investing. We invest across the entire fixed income spectrum which includes government bonds, emerging market bonds, corporate bonds and loans, convertible bonds, hybrid securities, securitised products, structured credit, and global currencies. Our multi-asset macro and systematic strategies also invest in asset classes such as equities and commodities.

Portfolio Execution

The Portfolio Execution department seeks to deliver top-tier trade

execution to efficiently manage total portfolio liquidity and to enhance asset utilisation. Our trading teams operate around the clock across three centres – Singapore, London, and New York – to execute investment decisions for all public market asset classes and provide timely market intelligence to investment groups. We leverage market and microstructure insights generated by our in-house research team to execute efficient trading, portfolio implementation, and rebalancing strategies. Our role encompasses trading, execution research and analytics, total portfolio rebalancing, liquidity management, equity beta replication and securities finance.

Private Equity

Our private equity universe includes buyouts, minority growth, pre-IPOs, venture capital, private credit, and special situations such as distressed debt, and secondary private equity. We invest in companies directly and through funds. The direct investment programme is focused on taking minority equity positions and providing junior and senior debt financing in buyouts. Our

funds strategy aims to identify and invest with leading private equity, venture capital, private credit, and special situations funds globally and grow with them in the long run. We have built up a network of over 100 active fund managers. The investment teams add value to the boards and management of the investee companies by providing advice and access to a global business network.

Infrastructure

Our Infrastructure department takes a multi-pronged approach to investing. We invest mainly in private infrastructure assets with a high degree of cash flow visibility and which provide a hedge against inflation. These include mature, low- to moderate-risk assets in developed markets, complemented by investments with higher growth potential in emerging markets. We also invest in infrastructure funds, non-investment grade infrastructure debt, and structured investments in listed infrastructure companies. We have a dedicated asset management team which works alongside our investment professionals and industry experts to monitor and enhance the

governance and operations of our portfolio companies.

Real Estate

GIC was an early entrant among institutional investors in real estate. Our investments in the space now include traditional private real estate (brick-and-mortar assets), public equities, real estate investment trusts, and real estate-related debt instruments. Our real estate assets span multiple property sectors, including traditional office, retail, residential, industrial, and hospitality and newer economy sectors such as data centres, life sciences, and healthcare properties.

Through active asset management, GIC can further generate income and enhance the market value of its assets through tenant management, market positioning, leasing, and capital improvements.

Integrated Strategies

Our Integrated Strategies department invests across public and private asset markets and in less conventional investment

opportunities, develops thematic investment strategies, and actively expands GIC's network of relationships beyond traditional domains. Our team has developed strong relationships and invests with family offices, family-owned businesses/entrepreneurs, corporates, and individuals with specific expertise (fund-less sponsors). We also invest with differentiated fund managers. We provide bespoke solutions to our partners for various uses including growth capital, M&A financing, shareholding restructuring, etc. With a flexible investment mandate, we can invest across the capital structure and hence find the right investment structure for our partners.

External Fund Managers

GIC engages external fund managers to access investment capabilities and opportunities in various sectors and geographies. External managers enable GIC to gain exposure across public and private markets. They also provide us with valuable investment insights.

Investment Services

GIC has dedicated investment services departments that

support public and private market investment activities. They provide support for deal closing, investment and data operations, investment reporting, management reporting, portfolio accounting, valuation, and financing.

3.7

Managing Risks

Investing involves prudent risk-taking. Identifying and managing risk is therefore a core responsibility of every GIC employee. Each employee has individual accountability and clearly defined responsibilities within our risk management framework. This ensures that risks taken are in line with the risk tolerance set by the Client.

GIC's risk management objectives are to protect the Client's interests and avoid permanent impairment to the Portfolio. The objectives ensure that:

1. The investment strategies pursued are in line with the Client's long-term real return objective and risk tolerance;
2. The risks associated with each investment are well-understood;
3. Policies, guidelines, and control processes are in place to reduce the likelihood of significant losses to the assets under management; and
4. Any reputational impact to the Client and GIC due to our actions is carefully managed.

GIC's risk management objectives are to protect the Client's interests and avoid permanent impairment to the Portfolio.

Risk Governance

The GIC Board provides ultimate risk oversight. The Board approves the Policy Portfolio, which is constructed with the Client’s long-term real return objective and risk tolerance in mind. Deviation of asset allocation exposure from policy benchmarks is constrained by a set of operating bands around the Policy Portfolio’s target weights. In addition, the GIC Board sets an active risk budget to limit the risk arising from the deviation of the Active Portfolio from the Policy Portfolio. The GIC Board is supported by the Board Risk Committee, which advises the Board on risk matters. The Board Risk Committee sets the overall direction of risk management policies and

practices in GIC. In addition, it reviews significant risk issues arising from GIC’s operations and investments.

The Group Executive Committee is the highest management body in GIC. It deliberates on investment and risk issues before they are submitted to relevant board committees. It is also the forum that assesses and makes determinations on fiduciary risk and reputational risk issues.

The Chief Risk Officer (CRO) is a member of the Group Executive Committee and reports to the Chief Executive Officer (CEO) and the Chairman of the Board Risk Committee. The CRO is accountable to the Board of

Directors, primarily through the Board Risk Committee, on all risk-related matters.

The CRO chairs the Group Risk Committee that is vested with the responsibility to oversee implementation of risk policies and review significant risk issues from investments and operations, as well as ensure the resolution of these issues.

Three Lines of Defence

GIC’s risk management model operates along three lines of defence, which ensures that there is clarity and transparency in risk ownership and accountability:

Figure 5. Three Levels of Risk Management



1. The First Line: Operating Units

People are the cornerstone of any risk management system. All GIC employees are expected to act with integrity and exercise sound judgement; they need to understand, evaluate, and carefully manage the risks they take. All operating units own and are primarily accountable for the risks inherent in their activities. They are responsible for ensuring that an appropriate risk-and-control environment and robust processes are in place as part of their day-to-day operations. Our risk assessments are forward-looking and form an important element of our long-term approach. We consider a broad spectrum of risks with potential long-term impact, including sustainability risks and risks from activities managed by appointed agents.

2. The Second Line: Risk Management and Control Functions

Risk management and control functions independent of the risk-taking business units are the second line of defence. They provide appropriate day-to-day risk oversight and control. These functions include risk management, legal and compliance, information and technology risk management, reputational risk management, and tax and finance. While they each have their defined set of responsibilities, they also work collectively to provide the requisite checks and balances to the risk-taking activities of GIC's investment groups.

3. The Third Line: Internal Audit

Our Internal Audit Department (IAD) forms the third line of defence. IAD provides independent assessment and assurance on the adequacy and effectiveness of our

internal risk management controls. It reports functionally to the Chairperson of the Audit Committee, and administratively to the CEO.

Risk Management Approach

Our approach to risk management is multi-pronged to address the different types of risk faced by GIC:

- I. Managing portfolio investment risk to ensure that any risk taken is consistent with our mandate and commensurate with expected returns;
- II. Managing legal, regulatory, and compliance risks to safeguard the reputation and interests of the Client and GIC, and to comply with applicable laws and regulations;
- III. Managing tax risk to ensure compliance with the tax laws of applicable jurisdictions;
- IV. Managing operational risk through an effective system of internal controls and processes to support GIC's operations;
- V. Managing cyber security, technology, and information risk to ensure that our technology resources and information are well-protected;
- VI. Managing counterparty credit risk to minimise the impact to GIC if any counterparties were to default;
- VII. Managing reputational risk;
- VIII. Managing business disruption risk; and
- IX. Managing people risk.

This multi-pronged approach to risk management, complemented by the three lines of defence, ensures that risks within the portfolio are looked at in a comprehensive manner. While risks remain, they are well-identified and managed within an established risk tolerance.

Managing Portfolio Investment Risk

Policies, guidelines, and processes are established to ensure consistency and clarity across the firm, while reducing the likelihood of significant unexpected losses to the assets under management. The policies and guidelines translate our investment mandate and risk management principles into standards that guide our day-to-day activities. For example, the group-wide investment approval framework sets out the approving authorities for investments based on size. Another

GIC employs a suite of measures including volatility, risk concentrations, sensitivities to risk factors, liquidity profile, and expected shortfall to identify and analyse the risks in the portfolio from both top-down and bottom-up perspectives.

example is the cost-of-capital framework which determines an appropriate performance hurdle for each active strategy that includes the cost of funding these strategies and a premium for additional risk undertaken. We identify, measure, report, and monitor all the risks that are assumed. GIC employs a suite of measures including volatility, risk concentrations, sensitivities to risk factors, liquidity profile, and expected shortfall to identify and analyse the risks in the portfolio from both top-down and bottom-up perspectives. Each measure is designed to highlight a specific aspect of the portfolio that could lead to

an undesirable outcome. These statistical measures are supplemented by a set of stress tests and scenario analyses. Reverse stress tests further help to identify otherwise undetected risks that could lead to large or sustained drawdowns. The risk management function sets and monitors performance and risk review thresholds independently to highlight potential changes in risk-taking behaviour and inconsistencies with the stated risk and return assumptions.

Managing Legal, Regulatory, and Compliance Risks

Legal and regulatory risks relate to uncertainties in the interpretation and application of laws and regulations, the enforcement of rights or the management of potential litigation, and breaches in contracts, laws or regulations. Compliance risk refers to the risk of legal or regulatory sanctions, financial penalty, or reputational damage arising from non-compliance with applicable laws and regulations.

GIC's compliance programme comprises robust policies, procedures, effective controls, monitoring, surveillance, and the enforcement of disciplinary actions against violations or misconduct. The implementation of a rigorous compliance programme is underpinned by a strong culture of ethics, risk management, and compliance. All staff are required to observe the policies and procedures set out in GIC's Compliance Manual (incorporating the Code of Ethics), comply with all applicable laws and regulations, uphold exemplary conduct and the highest ethical standards, and act with integrity at all times. Regular and targeted in-person and

online training is conducted, and an annual Compliance and Risk Refresher Training and Quiz is administered to reinforce awareness and understanding of key compliance and corporate policies and strengthen GIC's risk and compliance culture. The compliance programme also requires that all staff adhere to their confidentiality obligations and responsibilities.

The investment and operations teams collaborate with the legal and compliance function to manage legal, regulatory, compliance, and reputational risks arising from the group's investment and operational activities. The legal and compliance function monitors compliance with applicable laws and regulations, including but not limited to: laws on securities trading and investment, competition law requirements, financial crimes and sanctions compliance, licensing, and regulatory approvals and reporting. Emerging legal and regulatory issues and proposed regulatory changes are also closely monitored. Additionally, the in-house legal team works with external lawyers to address legal risks.

Managing Tax Risk

GIC's Tax Governance Framework underscores our commitment to be compliant with the tax laws, rules, regulations, and obligations set by the respective governments of the jurisdictions in which we invest and operate in. We ensure that tax-related decisions are handled with professional skill, care and diligence and with the relevant documentation that evidences the facts, considerations, and decisions taken. We seek written advice, opinion, or confirmation from an

independent external professional expertise, where appropriate, to substantiate our tax positions. Our tax positions and obligations are clearly represented in line with applicable tax laws and regulations. We also engage with tax authorities in an open, constructive, and professional manner.

Managing Operational Risk

All investment and operations staff are required to identify, evaluate, manage, and report risks in their own areas of responsibility and to comply with established risk policies, guidelines, limits, and procedures. For example, new investment products or strategies are subject to a risk identification and assessment process conducted by a cross-functional group. This ensures that all risks associated with the new product or activity are identified and analysed prior to investment or engagement. We must be satisfied that the required people and infrastructure, including systems, risk modelling, procedures, and controls, are in place to manage these risks before the investment is permitted. We continuously assess the control environment to ensure that any control weakness is promptly identified and addressed. Policies and procedures are established to safeguard the physical security and integrity of GIC's technology and data assets. Throughout the year, internal and external auditors scrutinise all operations and business processes. Any deficiencies identified must be addressed within set time frames and reported to senior management.

Managing Cyber Security, Technology, and Information Risk

As GIC adopts advanced information technologies (IT), we recognise the importance of having strong cyber security defences and robust internal controls for our operating environment. A dedicated team of cyber security and IT risk management professionals maintains our cyber defence capabilities, as well as oversees technology operations and the use of IT across the organisation. With the evolution of our business and the IT landscape, we continue to invest in people, processes, and tools to protect GIC’s technology resources and information. GIC also engages independent external professional expertise to augment internal resources where applicable.

Managing Counterparty Credit Risk

GIC adopts a strong control orientation in managing counterparty credit risk, trading only with financially sound and reputable counterparties. A stringent selection and approval process is in place to appoint counterparties. We review the counterparties and monitor our counterparty exposure against set limits. Counterparty profiles are regularly reported to senior management. Other measures to mitigate credit risk include using netting agreements and programmes requiring counterparties to pledge collateral.

Managing Reputational Risk

Managing reputational risk is part of GIC’s overall risk management framework. Our governance and investment processes ensure that we exercise caution and do not take on undue reputational risk in our

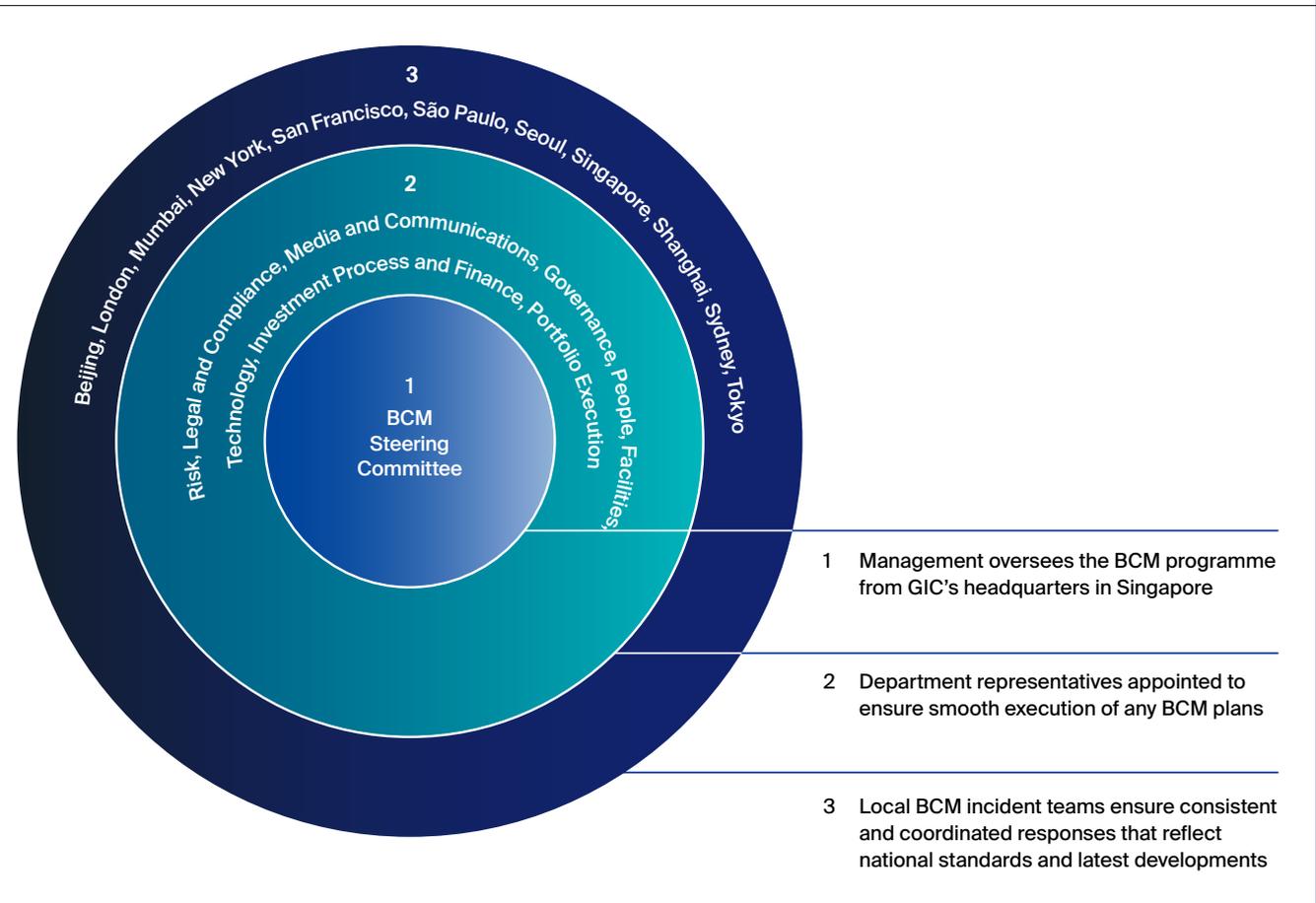
pursuit of returns.

Managing Business Disruption Risk

We maintain a robust crisis management and business continuity programme to ensure that the organisation is well-equipped to respond to crisis events including but not limited to threats to staff safety or the continuity of GIC’s business operations. Ensuring business continuity is a coordinated effort that involves representatives

from all of GIC’s offices and departments. The Business Continuity Management (BCM) Steering Committee, chaired by the Chief Operating Officer, oversees the development and review of GIC’s overall BCM framework and reports to GIC’s Group Executive Committee. The BCM Steering Committee manages crises with the BCM Working Group and local BCM Incident Management Teams which implement response activities on the ground. During a disruption, they collectively ensure consistent communication, coordination, and monitoring

Figure 6. GIC’s BCM Programme



across GIC globally as well as timely activation of business continuity plans. Additionally, the local teams adjust and implement measures based on the latest local standards and developments. We also leverage technology for the efficient management of our business continuity programme. A standardised tool for GIC's risk assessment is used for data collection, analysis, and development of strategies. The tool serves as the central repository for all BCM resources, enabling clarity and transparency.

GIC's BCM programme was established in 1999. To meet evolving standards and business needs, our business continuity plans are reviewed regularly through external certifications and internal exercises. Our global programme is certified under ISO 22301, the international standard for business continuity management.

Managing People Risk

People are at the heart of our business. Our PRIME values serve as the compass in the management of our people, processes, and portfolio. The assessment of these values is included in our staff appraisals. We require our staff to conduct themselves in an exemplary manner at all times and uphold GIC's fiduciary duty to the Client. This includes observing the applicable laws and regulations, as well as GIC's

internal policies and procedures. Consistent with our long-term orientation, GIC's remuneration policies and talent practices support and reinforce a prudent risk-taking culture as well as recognise and reward our people on the basis of long-term results, behaviours, and PRIME values.

Retaining our organisational resilience, agility, and ability to take calculated risks are long-term critical issues. We are committed to developing our employees to their full potential through learning programmes and growth opportunities. We continue to develop a strong leadership bench for GIC, build new investment capabilities, and extend our investment and operating platforms, while reinforcing organisational culture and conduct.

INVESTING SUSTAINABLY

Sustainability is integral to GIC's mandate: to preserve and enhance the international purchasing power of the reserves under our management.

04

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4.1

Our Beliefs

Sustainability is fundamental to the long-term health of the global economy. It is integral to GIC's mandate, which is to preserve and enhance the international purchasing power of the reserves under our management.

We believe that companies with strong sustainability practices offer prospects of better risk-adjusted returns over the long term, and that this relationship will strengthen over time as market externalities get priced in and are incorporated into the decisions of regulators, businesses, and consumers. Sustainability issues, such as climate change, have a material impact on companies and physical assets, affecting their operations and financial performance and shaping their long-term value.

We take a holistic and long-term approach towards sustainability across our investment and corporate processes. Investments may entail trade-offs between different sustainability objectives, especially in the short term. For example, retiring coal-fired power plants on an

aggressive timeline may be positive for the environment, but without a holistic transition plan in place, this could hurt affected communities through loss of livelihoods and increased costs of living. GIC integrates sustainability in a way that recognises the diverse industries and markets in which we operate as well as the trade-offs and time needed for companies to make the transition.

GIC is committed to enabling the global transition to a net-zero economy through our investments and operations. We believe that it is critical to focus on making a positive impact in the real economy. To do this, it is more constructive to actively engage and support companies in their transition towards long-term sustainability than to mechanically divest from certain industry sectors. For example, we actively engage with portfolio companies on their climate transition plans and fund the adoption and scaling-up of green technologies. Such an approach would create more value and more beneficial outcomes in the real economy over the long term.

We believe that companies with strong sustainability practices offer prospects of better risk-adjusted returns over the long term, and that this relationship will strengthen over time as market externalities get priced in and are incorporated into the decisions of regulators, businesses, and consumers.

In Conversation with Liew Tzu Mi



Chief Investment Officer, Fixed Income, and Chair of the Sustainability Committee

What are your views on the recent rise in net-zero commitments by companies?

Decarbonising the economy is an existential issue, which is increasingly recognised by companies around the world. For example, [a report by Natural Capital Partners in 2021](#) estimated that 38% of the Fortune 500 companies have set a major climate-related milestone by 2030, up from 30% a year before. This is encouraging.

But these aspirations must be translated into actions to have an impact in the real economy. From GIC's interactions with our portfolio companies, we learnt that companies are more likely to make meaningful progress in their transition to net zero when decarbonisation makes business sense. For example, technologies are available today to reduce the carbon content of cement, a basic material in construction, but producers will only adopt them if customers demand it.

Regulators could also shape market conditions, for example, by raising the costs of emitting carbon or encouraging the adoption of lower-carbon technologies. Once such conditions are in place,

companies will still need significant investment to upgrade their production processes or transform their business models. These transition efforts are what long-term investors such as GIC can play a role in enabling.

How is GIC playing its role in the global transition to net zero?

GIC is committed to enabling the global transition to a net-zero economy, through our investments and operations. The transition in the real economy is what matters to the future of our planet. Investment portfolios are one step removed from the real economy. For example, an investor could potentially sell its carbon-intensive assets to make its portfolio look greener, but that action in itself would not necessarily reduce the amount of carbon emissions in the real world. Even if divestments lead to a rise in the cost of financing for such assets, other investors could be ready to buy them and might even operate them less sustainably thereafter.

GIC therefore focuses on influencing its partner companies and the real economy in two ways. First, we invest in companies which develop solutions that

help to decarbonise the economy, including batteries, hydrogen, carbon capture and storage, and even nuclear fusion. Some of these technologies are nascent and developed by start-ups that will need capital to scale. GIC's experience in technology investments has enabled us to support such innovation, and we are excited to see this space grow in the coming years.

Second, we actively engage our portfolio companies. We conduct dialogues with company management to ensure they recognise and address climate risks and opportunities. When opportunities arise, we will fund the investments needed to support their transition towards more climate-resilient business models. This helps to provide capital to sectors such as energy, industrials, and materials, which form a substantial part of the real economy and need significant investments to decarbonise.

We consider how assets are situated in the spectrum of climate transition. At one end are assets that are highly pollutive and where companies have no transition plans despite repeated engagements by investors. A continued lack of progress would prompt GIC to divest from such companies. At the other end of the spectrum are climate innovations, such as renewable energy and other newer solutions.

We believe most companies are in the middle of the spectrum and at varying stages of their transition depending on factors such as their history, the nature of their markets, and the technologies available to them (Refer to Figure 1). GIC's role as a

long-term investor is to encourage their transition efforts.

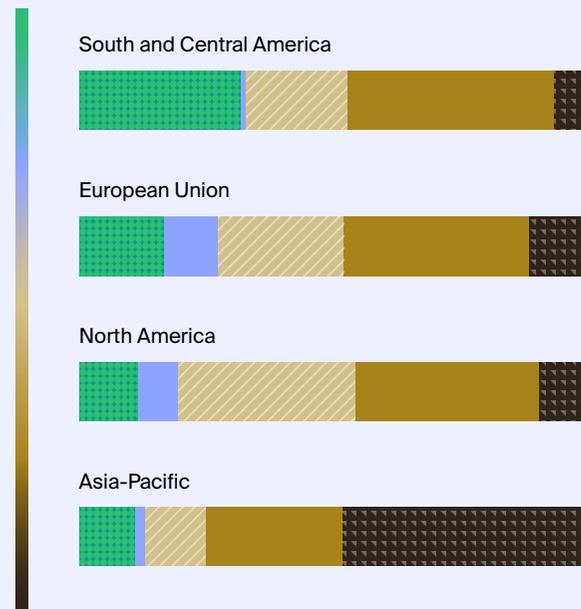
Ultimately, the fight against climate change will achieve a tangible outcome only if the real economy

is decarbonised. To get there, companies need to make the transition. Regulators can incentivise companies through policy measures, consumers can shift their buying behaviours, and investors can take a long-term view to support them through engagement and funding. We all have a part to play.

Figure 1: Different Starting Points for the Transition

Starting points differ by markets based on available energy sources:

High reliance on renewables

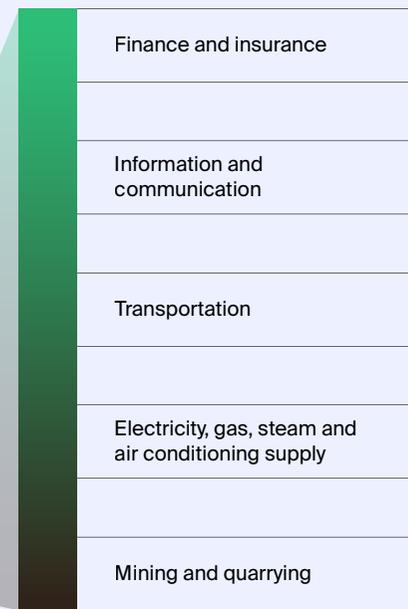


High reliance on fossil fuels



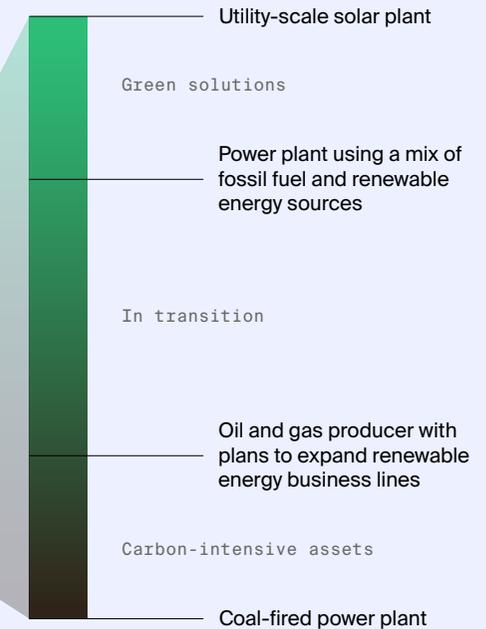
Resource and energy requirements vary across industries in Asia-Pacific*:

Less carbon-intensive industries



Carbon-intensive industries

Carbon intensity can also vary widely within the electricity, gas, steam and air conditioning supply industries in Asia-Pacific:



* These charts, including the example of Asia-Pacific, are used for illustrative purposes only, to highlight regional, inter- and intra-industry differences in transition timelines.

Source: Ritchie, Rose and Rosado (2020). *Energy*; IEA (2021). *Global Energy Review*.

4.2

Our Approach

Sustainability is a top management priority at GIC. The GIC Board, along with its supporting committees – the Investment Strategies Committee, the Investment Board, and the Risk Committee – have oversight of GIC’s sustainability approach and management’s considerations on climate-related risks and opportunities.

GIC’s Sustainability Committee, comprising senior leaders from our investment, risk, and corporate functions, is tasked to implement the sustainability framework and monitor and respond to environmental, social, and governance (ESG) issues. The Committee regularly engages the Group Executive Committee and Board Committees on broad trends and emerging issues that may affect our portfolio as well as the ongoing implementation of GIC’s framework for sustainability – capturing opportunities, protecting our portfolio, and developing enterprise excellence and partnerships. A dedicated Sustainability Office has been set up to support the Committee in deepening research into sustainability issues and in driving their integration into the investment process and across the enterprise.

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4.3

Capturing Opportunities

GIC recognises that new investment opportunities will emerge as regulators, consumers, and businesses increasingly act on sustainability issues. We aim to capture these opportunities by:

- Integrating sustainability into our investment processes, including due diligence, risk assessment, and monitoring;
- Actively engaging our portfolio companies on sustainability issues that are material to their long-term business prospects; and
- Investing thematically in opportunities arising from climate change and other sustainability trends.



“Sustainability is a disruptive force to all industries, and there are abundant alpha opportunities for investors to consider. Our teams have been leading deep dives on sustainability-related themes and companies. To accelerate these efforts, we integrated these cross-department interest groups into a dedicated research network. This provides structure to how the insights are shared, scaled, and translated into investment actions.”

Doe Tien Xuan on sustainability-focused thematic research
Head of Research, Public Equities

4.3.1 Integration

Our investment groups across public and private markets integrate sustainability considerations into their decision-making processes, focusing on the issues material to each company's long-term economic prospects. For example, our investment groups examine the carbon intensity of companies in the energy sector relative to their peer group. For significant positions, they may also conduct carbon price stress-testing against GIC's set of climate scenarios.

Teams maintain regular dialogue with portfolio companies on sustainability risks and opportunities and vote responsibly. We also engage with external fund managers and general partners on their sustainability policies and practices and ensure our investments with them are managed in a manner consistent with GIC's sustainability approach.

Our investment groups across public and private markets integrate sustainability considerations into their decision-making processes, focusing on the issues material to each company's long-term economic prospects.

Active Ownership through Voting and Engagement

Case Study 1: Supporting a Pivot from Coal to Renewables

GIC is invested in a wind power company which primarily designs, develops, and operates wind farms. Recently, the company has expanded its focus to new energy sources, including projects in photovoltaic, biomass, tidal, geothermal, and thermal power generation. When we first invested in the company, it was still partially dependent on coal-fired power plants to generate its electricity.

In view of potential growth opportunities within the renewables market, GIC had voted in favour of a proposal to restructure the company's portfolio to eliminate all coal-fired power businesses and increase renewable energy projects. The company is currently in the midst of this transition, which we believe will reduce its carbon risk while creating a stronger growth pipeline.

Case Study 2: Strengthening ESG Practices and Disclosures

GIC is a long-term investor in an integrated construction and investment conglomerate in Asia. Our early dialogues with the company focused on strengthening the board's independence and diversity, which the company took steps to improve over time.

In response to the recommendations of GIC and other shareholders, the company has also made meaningful progress with regard to the environmental and social dimensions of sustainability in recent years, including increasing its focus on green revenues while maintaining profitability. GIC has also encouraged the company to start disclosing its ESG performance and goals, which it has consistently done for the last few years.

4.3.2 Investing Thematically

In 2020, GIC established the Sustainable Investment Fund (SIF) – a dedicated investment portfolio coordinated across public and private market investment groups – to accelerate sustainability integration across all asset classes and to invest in sustainability-related opportunities that would generate good returns over time. Since its inception, SIF's performance has been promising and has helped to catalyse additional department-led efforts in sustainability.

Public Equities

The actively managed portfolio under our Public Equities department already incorporates sustainability themes as part of its bottom-up stock selection process. As part of its opportunity sourcing process, the team leverages domain expertise across different sub-industries to map emerging themes that could accelerate the adoption of sustainable technologies in the real economy at scale. These efforts identified the ecosystem for autonomous and electric vehicles (EV) as a potential growth area, among other themes. In addition, in 2021, the department set up an Asia sustainability portfolio to focus on sustainability-linked investments, with significant holdings in themes such as the energy transition, EV, renewable energy, and sustainable materials.

Fixed Income

Our Fixed Income department has expanded investments from sovereign and corporate green

bonds to sustainability-linked securitisations, carbon derivatives, and themes such as EV, renewable energy, and the circular economy. One example of such investments is a refuse truck manufacturing company that combines innovative, best-in-class EV technology, giving the company a first-mover advantage in fully electric trucks. Within structured products, we see increased issuances in such themes and are invested in asset-backed securitisations of solar, agricultural, and affordable housing loans.

Private Equity

Our Private Equity department established the Electron Innoport, a global portfolio of funds and direct and co-investments that provides exposure to early-stage energy transition opportunities. Electron Innoport focuses on innovations that accelerate the transition to sustainable energy, covering themes such as increasing electrification, enhancing energy and resource efficiency, and new decarbonisation solutions. Examples of investments include: a direct air capture company; a service provider for installing EV charging stations; microgrids and other energy transition technologies; a technology partner of energy providers transitioning to the clean energy ecosystem; and a company using anaerobic digester processing to provide food waste solutions. In parallel, the department has also made sizable commitments to climate-focused and impact funds with proven performance track records and established frameworks to measure and monitor their impact on the real economy.

Infrastructure

Our Infrastructure department has actively invested in emerging energy transition infrastructure opportunities. An infrastructure technology portfolio has been established to source for and support opportunities in evolving trends that have yet to become mainstream, but could positively accelerate transition in the real economy once they do. Its investments are supported by an in-house disruption team that actively identifies and tracks disruptive megatrends, such as long-duration energy storage, the hydrogen economy, fusion energy, and carbon capture and sequestration, among others.

Real Estate

Our Real Estate department also tracks and invests in sustainability themes with the potential to disrupt the industry. For example, the department has invested in funds that focus on technologies that can reduce the carbon emissions or improve the energy efficiency of the built environment.

“As a global long-term investor, we actively look for partners with the potential to make significant and positive impact to the world’s demand for decarbonisation solutions.”

Ang Eng Seng on transition investing
Chief Investment Officer, Infrastructure



Investments in the Transition to a Low-Carbon Economy

Example 1: Supporting the Retirement of Coal-Fired Power Plants

An integrated electric utility in the US, which currently depends on coal-fired power plants to generate most of its electricity, plans to retire these assets over time to achieve its carbon reduction goals. This transition requires the company to invest in more renewables and natural gas-fired generation. The company has also expanded its long-term net-zero emission goals to include Scope 1, Scope 2, and certain Scope 3 emissions and is investing in transmission and distribution for a smarter, more resilient, greener grid.

GIC saw an opportunity to support the company's multi-year decarbonisation journey and transition to cleaner energy through capital provision. As a long-term investor, GIC also intends to work with the company to keep its transition progress on track while continuing to provide reliable service and competitive rates to its large customer base.

Example 2: Expanding Geothermal Energy Solutions

GIC is invested in a leading developer and operator of low-temperature geothermal projects, used to provide clean heating solutions. Its portfolio also includes one of the fastest-growing geothermal companies with operations in China. Geothermal energy is a renewable and sustainable alternative which provides a baseload supply of heat that can be used to heat cities and generate electricity. This form of energy is less expensive than coal and gas heating and, unlike most other renewable energies, does not have intermittency issues, making it a more constant and reliable clean energy source.

GIC recognises the company's potential to significantly reduce carbon emissions in China by replacing legacy coal-heating solutions. To help it scale, GIC has provided the company with growth capital and has connected it with other investee companies across the GIC portfolio to facilitate its expansion into Europe.

4.4

Protecting our Portfolio

Sustainability issues across the domains of the environment, social issues, and business governance pose investment risks. We protect our investments by:

- Regularly screening our existing portfolios for material sustainability risks;
- Conducting additional due diligence for companies and assets exposed to greater sustainability risks and adjusting our long-term valuation and risk models accordingly; and
- Stress-testing our portfolio and significant holdings against a range of climate scenarios and carbon price projections.



“Environmental trends and issues will have long-term influence on our portfolio’s value. With tenants’ increasing focus on ESG, we believe in a strong focus on the fundamentals of our assets and ensuring that they meet sustainability and wellness standards globally. Such an approach will strengthen the assets’ resilience to climate change risks and lead to greater long-term value enhancement.”

Lee Kok Sun on GIC’s approach to managing climate-driven risks
Chief Investment Officer, Real Estate

Managing Physical Risks

In its Sixth Assessment Report, the Intergovernmental Panel on Climate Change (IPCC) estimated that even if current national climate commitments are enacted, the world would not meet its goal of keeping the global mean temperature rise below 2°C¹ without drastic curtailments of greenhouse gas emissions. This implies that the physical risks of climate change, which government and corporate leaders are working to avoid, could eventually materialise.

It is imperative for all companies and asset owners to prepare for the physical risks that their assets could face. Physical risks from climate change can affect investment portfolios through multiple channels. For instance, chronic (or gradual) physical risks, such as water or heat stress, could directly impair business operations and indirectly impact labour and agricultural productivity. Acute physical risks, such as extreme weather events,

could affect assets through damage or business disruption. How these risks will evolve is highly uncertain across different countries and industries and will vary in terms of magnitude and timing.

Feature: Real Estate

Our Real Estate team's defence strategy focuses on enhancing the resilience of its portfolio to climate change risks. We do so by conducting sustainability assessments of individual assets and mapping physical risks at the regional level.

The physical risk assessment considers hazards such as tropical and extratropical cyclones, storm surges and inland floods, bush fires, and other extreme weather events. For example, we evaluated and did not proceed with a potential investment where the asset's exposure to unstable cliffs and receding shorelines made it

especially vulnerable to damage from climate change-driven sea level rise and storm surges. The portfolio is monitored for changes in exposure over time.

To strengthen our assets' resilience to climate change, our teams may put in place pre-emptive measures to mitigate individual assets' exposure to physical risks. For example, to protect assets from potential flood risks, we may proactively raise the minimum flood slabs or put in place flood

protection gates, depending on a specific asset's requirements.

In one instance, we concluded that the existing cooling system for a property would be inadequate for the asset's future requirements from increased global warming. Hence, we have gone beyond current regulatory requirements and installed chiller systems to protect the asset's long-term value.

¹ IPCC, 2021: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press. In Press.

Coastal property with high exposure to climate change-driven physical risks



Unstable cliffs



Receding shoreline

4.5

Developing Enterprise Excellence and Partnerships

How we operate sustainably as an organisation is as important as the way we invest. We do this by:

- Communicating clear expectations for sustainable behaviour in our business partners;
- Managing our resource use through environmentally conscious office design and smart technology to monitor and improve our energy efficiency; and
- Maintaining carbon neutrality in our operations across our global offices.

We achieved our target to become carbon neutral in our global operations in FY2020/21 and have maintained that in FY2021/22. GIC remains committed to monitoring and managing our footprint by avoiding and reducing unnecessary carbon emissions. We have also put in place measures to offset any remaining emissions using Gold

Standard-certified projects in the near term.

Partnerships

As a long-term investor, we welcome progress in global sustainability initiatives that help investors and companies make better business decisions that improve long-term value. Sustainability is a field that continues to evolve and all organisations, including GIC, can benefit from learning from one another as new standards are developed. GIC collaborates with fellow asset owners through platforms such as the Asia Investor Group on Climate Change (AIGCC), CDP, Climate Action 100+, and the Task Force on Climate-related Financial Disclosures (TCFD). GIC also engages in dialogues with organisations such as the International Forum of Sovereign Wealth Funds², the Milken Institute³, and others.

²
<https://www.gic.com.sg/thinkspace/long-term-investing/sustainability-a-long-term-investors-view/>

³
<https://www.gic.com.sg/thinkspace/long-term-investing/sustainable-capitalism-the-new-normal/>

FEATURE ARTICLE



The Biggest Value Add

As GIC navigates a world in transition, our people remain our greatest strength.



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The investing world looks to be sharply different from the recent past. We are facing weaker growth prospects across the global economy, higher inflation, and the potential unravelling of global integration, in addition to the uncertainties of geopolitics and the climate crisis.

Accurately forecasting the future is impossible and GIC will have to prepare, not predict, to react nimbly to changes and make the most of emerging opportunities.

As GIC prepares for a world in transition, we will continue to develop our capabilities and explore ways to optimise how our teams are organised. We will continue to build investment capabilities and extend investment and operating platforms that enable us to take calculated investment risks, while reinforcing our organisational culture and values.

Our people are at the heart of our business and GIC's PRIME values – Prudence, Respect, Integrity, Merit, and Excellence – serve as the compass in how we manage our people, processes, and portfolio.

PRIME

Prudence

Use sound judgment to take appropriate and informed risks.

Respect

Treat everyone with dignity and value the perspectives and work of others.

Integrity

Be honest, ethical, and trustworthy. Do what's right.

Merit

Reward both achievements and behaviours equitably.

Excellence

Be ambitious and agile, while remaining anchored in GIC's purpose. Be the best version of ourselves.

These values have helped GIC build a culture of ambition, agility and harnessing diversity, allowing us to take bold and calculated investment risks in an uncertain investment environment.

Ambition

Agility

Harnessing Diversity

This feature article provides a snapshot of how this culture has sparked GICians to launch new strategies and transform investment processes.

In a changing investing world, we think **this culture is key** to achieving our

purpose of securing

Singapore's financial future.

Part 1

GIC's Technology Investment Group (TIG) is an example of how our people have organised themselves to optimise existing capabilities. It is a story of ambition coming to fruition.

“Prior to TIG, technology investing at GIC was siloed within public and private markets respectively. Opportunities were falling between the gaps, and a group of us were already dreaming up a specialised technology investment group,” says Chris Emanuel, Head of TIG, Private Equity (PE).

In 2017, the team had deep conviction in the possibility of creating an alpha strategy that could invest in and help technology companies grow from private start-ups through to publicly listed companies. TIG's window of opportunity was closing – a rush of external capital meant that TIG needed to invest early and add value to its companies to be competitive in the space. Thus, TIG was born.

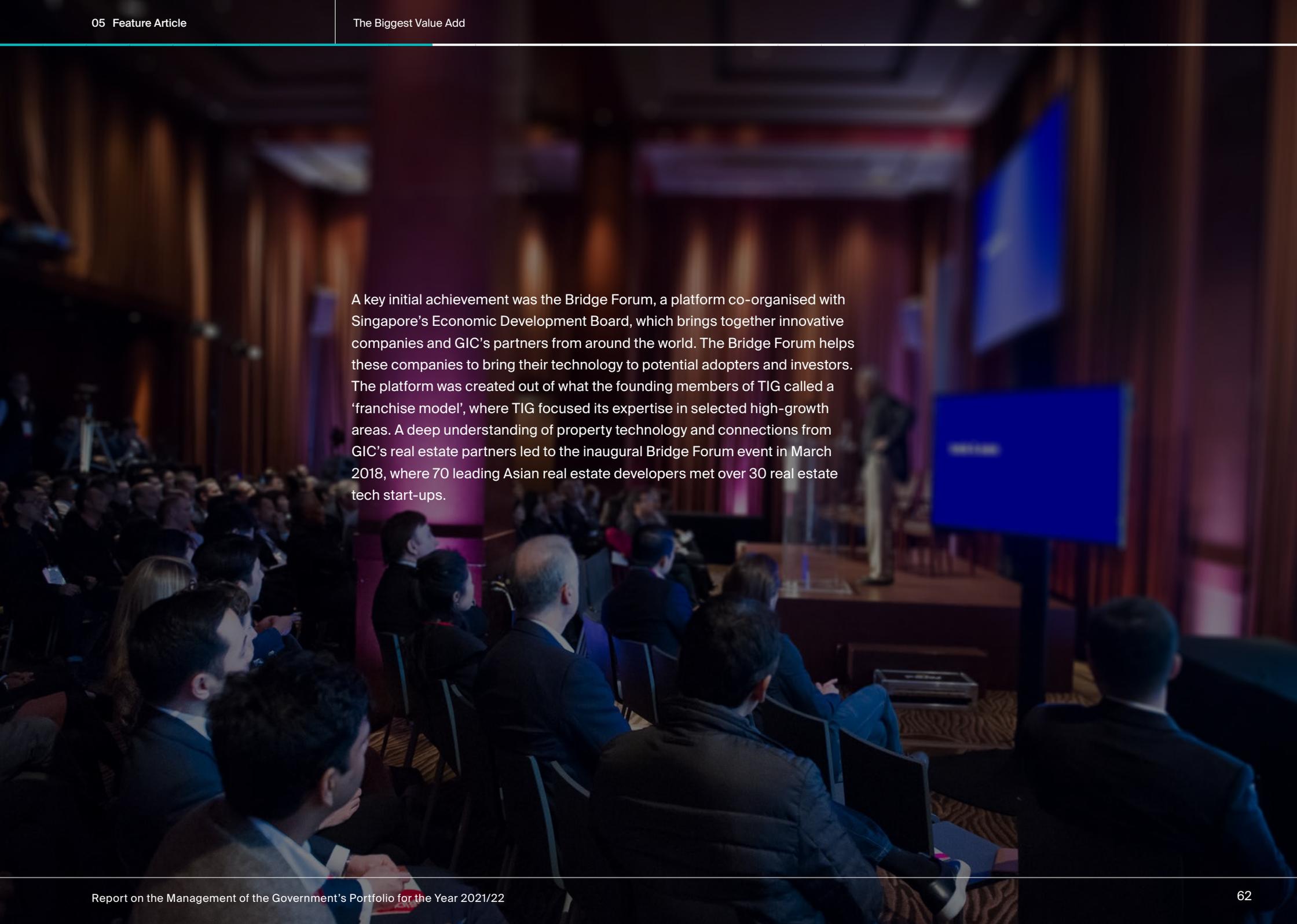
TIG believes in investing in industry-leading companies and partnering with innovative technology companies that create new categories, are founder-led, and have durable competitive advantages. These companies should fundamentally deliver customer value by meeting customer needs in a better, cheaper, and faster way. TIG partners with technology companies at all stages of their growth – from early-stage to large-scale – to build enduring relationships for the long term.

Helping technology
companies grow from

**Private
Start-ups**

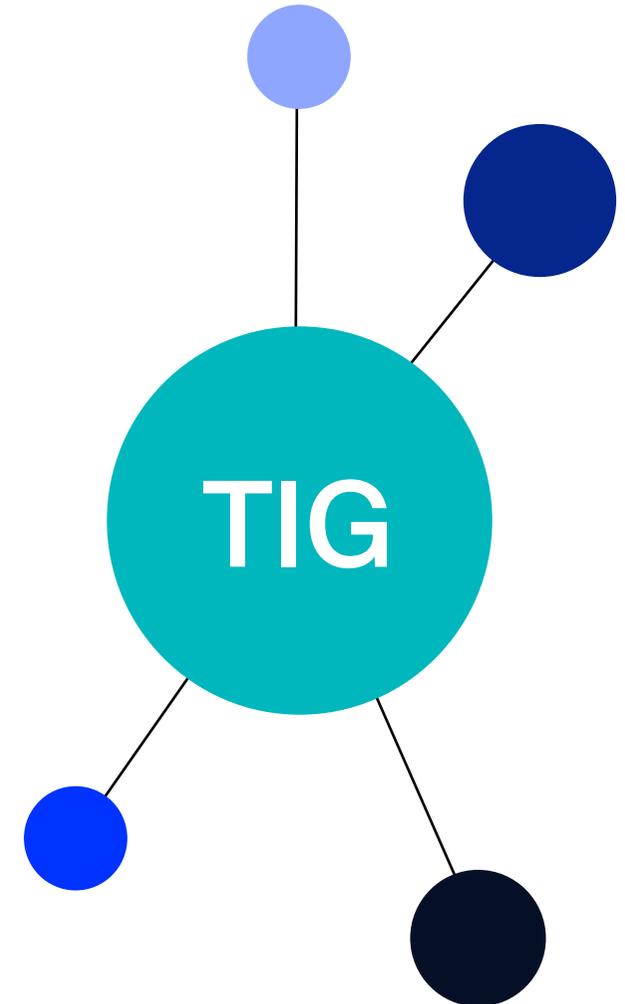


**Publicly Listed
Companies**



A key initial achievement was the Bridge Forum, a platform co-organised with Singapore's Economic Development Board, which brings together innovative companies and GIC's partners from around the world. The Bridge Forum helps these companies to bring their technology to potential adopters and investors. The platform was created out of what the founding members of TIG called a 'franchise model', where TIG focused its expertise in selected high-growth areas. A deep understanding of property technology and connections from GIC's real estate partners led to the inaugural Bridge Forum event in March 2018, where 70 leading Asian real estate developers met over 30 real estate tech start-ups.

Setting up a brand-new team was not without its risk. **Early members made career switches by signing on to TIG from other teams in GIC, exchanging stability for the opportunity to learn and build something new.**



“ When TIG started, there were just four people, with the goal of becoming one of the world’s leading technology investors. Failure was quite possible but because of our ambition, we persevered.”



Chris Emanuel
Head of Technology Investment Group, PE

TIG is racing to stay ahead of the changing realities. Focus areas have moved from e-commerce and media to enterprise software, fintech, and digital assets. More than 10 team members across GIC’s San Francisco, Mumbai, and Beijing offices work to invest in companies to hold for the long term – leading and funding growth rounds and supporting them through to public listings. “Change is a constant, and we must continue to innovate to differentiate ourselves,” Chris says. “If we do not continue to adapt to meet the market, there is no way we can succeed.”

Still, this plucky group is confident of their chances.
“Our origin story is not over yet,” Chris says.

“ We are just
getting **started.**”

Part 2

For GIC's PE Secondaries team, the pressure to outperform drives them to stay nimble and open.



“We had been invested in PE secondaries funds for a long time but wanted to give this strategy a major push. We aimed to scale up by doing co-investments and direct deals where GIC’s capacity for illiquidity was an advantage. It was a brand-new effort with a small team.”



Tan Hwee Loo
Founding Head of Secondaries, PE

The team faced four major challenges from its formation in 2016. Despite being distributed across three offices, the new team members had to develop a cohesive culture and investment philosophy quickly. Next, the team had to translate its investment philosophy into an executable strategy and third, build trust and rapport with key stakeholders and market participants. Of course, finally, the team also had to deliver good returns at scale.

The team quickly got used to thinking on their feet and acting swiftly. Two critical success factors identified early on were to leverage GIC's competitive advantages in the PE secondaries platform and to act with credibility and conviction, so that the team could become a sizeable direct player in the market.

"Hence, with the support of many colleagues, we developed tools and our internal information network to speedily evaluate potential portfolios efficiently," Hwee Loo says. "We were also aware of our limitations and built strong partnerships to co-bid on large complex deals."

01 Developing

a cohesive culture and investment philosophy across three offices quickly

02 Translating

investment philosophy into an executable strategy

03 Building

trust and rapport with key stakeholders and market participants

04 Delivering

good returns at scale

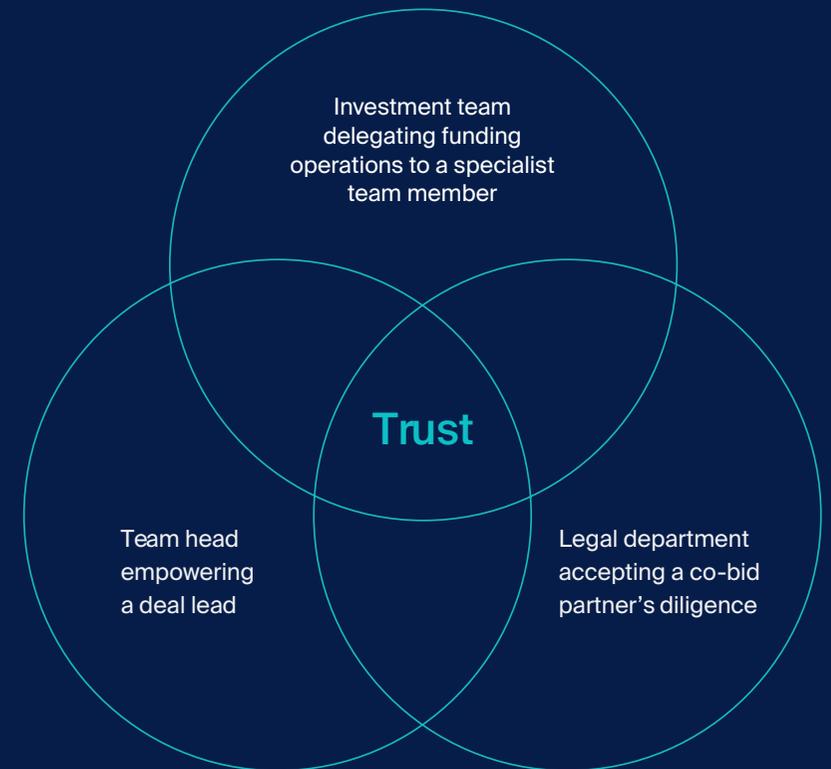
The team needed to react quickly to seize opportunities in an increasingly volatile market. The 2020 market downturn due to COVID-19 was a prime example – team members had experienced the 2008 Global Financial Crisis and were prepared to quickly analyse opportunities and acquire at scale.

Looking forward, the team's work is far from over as capital has flowed into the PE market, increasing the need and the opportunity for PE secondaries. Today, the team has 12 members in GIC's Singapore, London, and New York offices, with team members in each region empowered to navigate their respective markets.



How does the PE Secondaries team stay agile and succeed given that the team is spread around the world? Brian Kapetanis, Head of Secondaries, PE, is clear – there must be mutual trust among team members and with GIC’s partners in the market, which is built on transparent communications and supported by sound investment processes.

To Brian, mutual trust comes in many forms: an investment committee approving a range of bids instead of one option; a team head empowering a deal lead to negotiate with a partner and counterparty; an investment team delegating funding operations to a specialist team member to coordinate closing processes; or the legal department accepting a co-bid partner’s diligence to evaluate regulatory risk.



Tara Nicklin, Senior Vice President, Investment Services Private Markets & Finance, can attest to the trust given to her team. “Executing for PE secondaries presents a unique challenge. Structuring and closings are complex, and we need to stay agile to hit tight deadlines,” Tara says. “The PE Secondaries team across all regions involve us early and trust us fully to achieve seamless closings. They are reliable and collaborative partners to work with.”

Brian stresses that the key is to delegate and empower team members to make decisions and solve problems at all levels.

“The only way to be agile is to establish and maintain mutual trust within the team and with our partners,” Brian says. “This has been key to the programme’s success, and we expect it will be one of our most valuable assets as we navigate the market challenges ahead.”

“The PE Secondaries team across all regions involve us early and trust us fully to achieve seamless closings. They are reliable and collaborative partners to work with.”



Tara Nicklin

Senior Vice President, Investment Services Private Markets & Finance



“The only way to be agile is to establish and maintain mutual trust within the team and with our partners. This has been key to the programme’s success, and we expect it will be one of our most valuable assets as we navigate the market challenges ahead.”



Brian Kapetanis
Head of Secondaries, PE

Part 3

When deliberating on any potential investment, GIC's Asia Public Equities (EQ) and Real Estate (RE), Americas, teams know the importance of a healthy debate.

Both teams debate their investment ideas in regular meetings using a structured yet open approach. The RE team, comprising members from GIC's New York, San Francisco, and São Paulo offices, engages in a three-step ritual in discussing investment deals.



First, the investment proposal is shared with the 32-strong team.

01



Next, the entire team is invited to privately critique the proposal's terms, submit questions, and vote on the proposal.

02



Once the results are collected and anonymised, they are shared at the team meeting, with areas of disagreement and specific questions debated.

03

“A few years ago, we noticed individual team members were passing along ad-hoc feedback to senior leaders before a decision was made. Hence, we wanted to canvass the views of the entire team in a safe environment in a systematic way,” explains Grace Bucchianeri, Head of Global Investments and Portfolio Strategy, RE, Americas. “The team felt there was room to learn from each other’s experiences across multiple markets and make better decisions.”

However, setting up the new discussion process required a mindset change.

“A few junior colleagues were initially uncertain about submitting their comments, as they doubted that the comments would really be anonymous or taken seriously,” Grace says. “The seniors, meanwhile, tended to be assertive and articulate so it was hard to get everybody to learn how to listen first.”

In the EQ team, where a similar discussion process is conducted, meeting moderators are also careful to give equal airtime to team members during the discussion regardless of seniority.

The secret sauce to the 30-strong team's weekly meetings?

An openness to listen, with a touch of humility.

“The beauty of stock markets is that for every seller, there is a buyer. For every viewpoint, there is a counterpoint.”



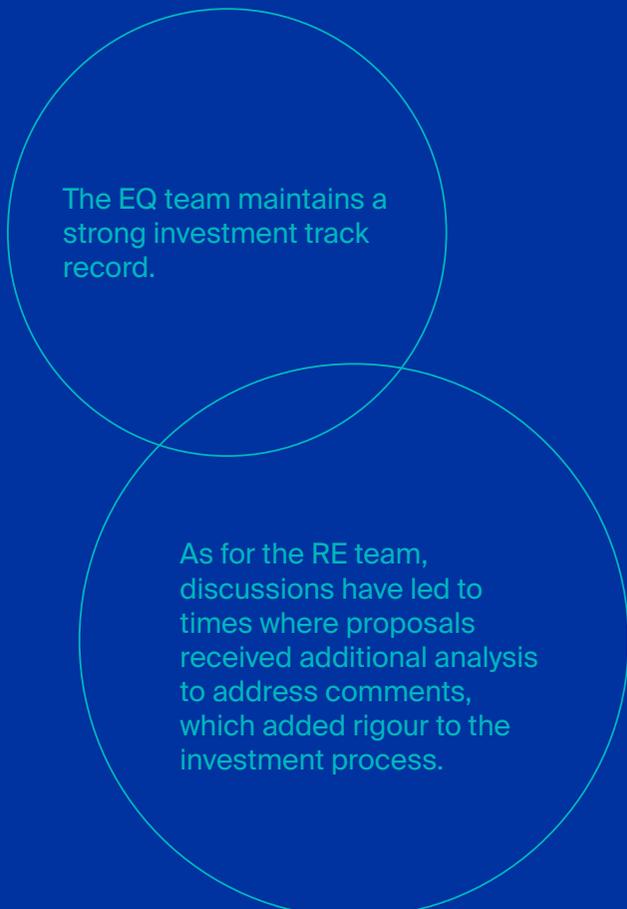
June Long
Head of Asia Equities Research

With such vigorous debate, nobody has a monopoly on being right. Mark Ong, Head of Asia Pacific Equities, recounts a past example where he presented to the team an investment idea that did not play out according to his thesis.

“Later on, I admitted to being wrong on a stock call which I presented to the team,” Mark says. “It was an opportunity for me to explain to the team the things I missed and what I learnt from it.”

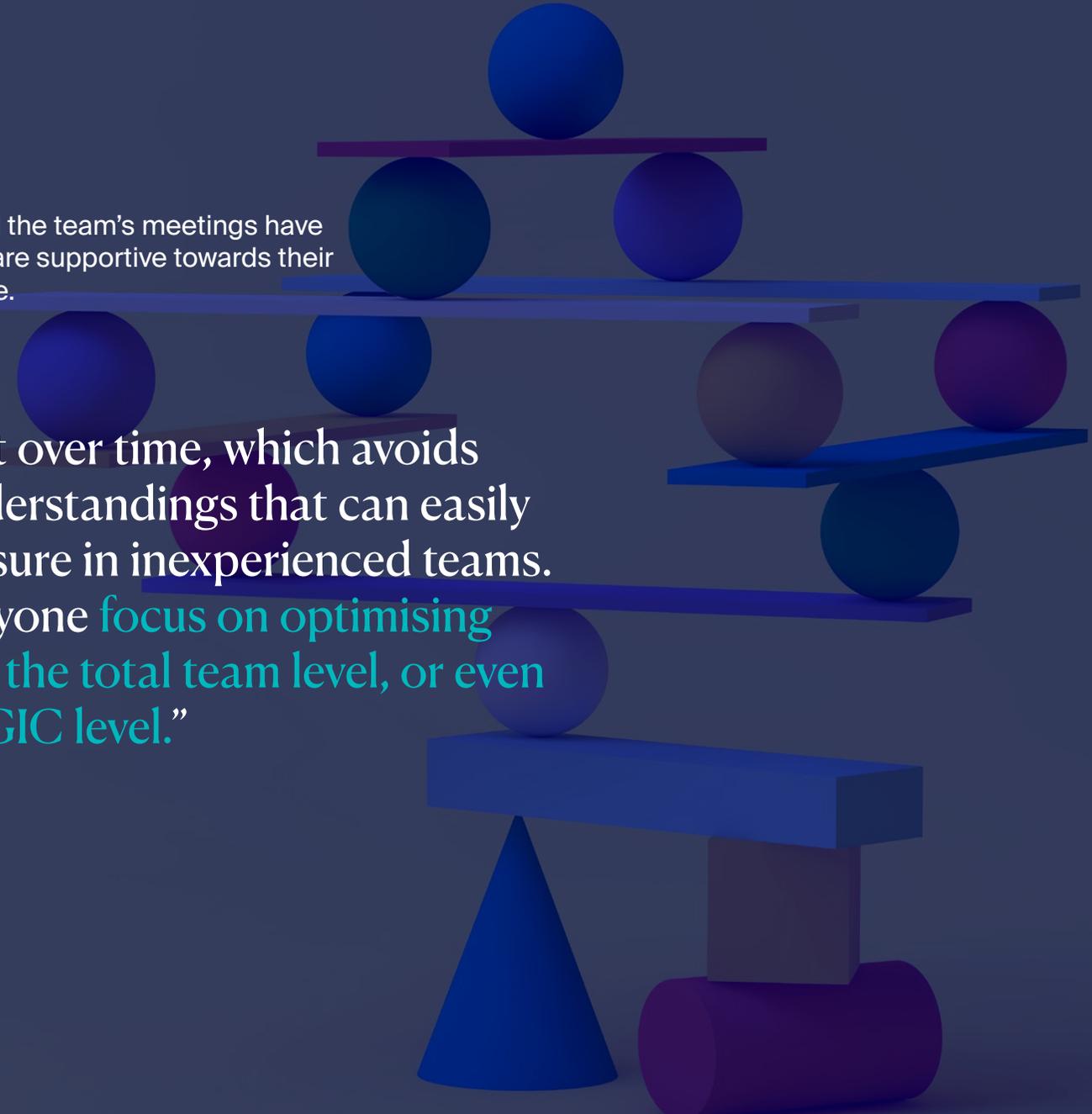
The open discussion process has paid off for both teams.

Decisions are now made with more conviction, and both teams have learnt to be open to feedback and new perspectives.



The EQ team maintains a strong investment track record.

As for the RE team, discussions have led to times where proposals received additional analysis to address comments, which added rigour to the investment process.



Mark is happy about how genial the team's meetings have been and how team members are supportive towards their colleagues who admit a mistake.

“Trust has been built over time, which avoids some of the misunderstandings that can easily flare up under pressure in inexperienced teams. We try to have everyone **focus on optimising the performance at the total team level, or even better, at the total GIC level.**”



Mark Ong
Head of Asia Pacific Equities

In fact, Mark and the team can be said to ‘walk the talk’. He shares how team members do not hesitate to call out anyone who is not receptive to diverse opinions.

“This is the litmus test for a healthy level of psychological safety in the team,” Mark says. “If team members dare to say only good things, then we should be worried.”

To Grace, the key to harnessing diverse opinions comes down to setting a proper process.



“It is natural to have biases, but we can work to have not just the courage and integrity to change our minds, but also a process and commitment to do so.”



Grace Bucchianeri
Head of Global Investments and Portfolio Strategy, RE, Americas

GOVERNANCE

The Government, represented by the Ministry of Finance (MOF), sets the investment objective, risk parameters, and investment horizon for the portfolio. It also ensures a competent board of directors is in place.

The GIC Board is responsible for the Policy Portfolio that determines GIC's long-term asset allocation and is accountable to the Government for the overall performance of the portfolio.

The GIC Management is responsible for formulating and executing investment strategies and for individual investments. The Management also reports to the Government on the risk and performance of the portfolio.

06

- 01 Letter from the CEO
- 02 Investment Report
- 03 Managing the Portfolio
- 04 Investing Sustainably
- 05 Feature Article
- > 06 Governance
- 07 Our People, Culture, and Community

6.1

Governance Overview

GIC was incorporated in 1981 under the Singapore Companies Act and is wholly owned by the Government of Singapore. It was set up with the sole purpose of managing Singapore's foreign reserves and currently invests well over US\$100 billion globally in a wide range of asset classes and instruments. As a rule, GIC invests outside Singapore.

Source and Purpose of Funds

GIC is a fund manager for the Government and does not own the assets that it manages. The sources of the Government's assets managed by GIC, as stated by MOF, include proceeds from the issuance of Singapore Government Securities (SGS) and Special Singapore Government Securities (SSGS), Government budget surpluses, and proceeds from the Government's land sales.

The Government does not specify to GIC the proportion of assets from each source. The Government mandates GIC to manage all assets in a single pool, on an unencumbered

basis and without regard to their source, with the aim of achieving good long-term real returns. (An explanation of the Government's framework for managing its assets and liabilities is available on MOF's website.)

Each year, part of the GIC Portfolio's return is tapped by the Government for its annual Budget and spent on key public services that improve the lives of Singaporeans. Under the Constitution, the Government is allowed to spend up to 50% of the long-term expected real return on the net assets managed by GIC and those owned by the Monetary Authority of Singapore (MAS) and Temasek Holdings in its annual budget. The Government's reserves therefore provide a stream of returns that benefit present and future generations of Singaporeans.

The President of Singapore

Since 1991, the Constitution of Singapore has provided for the

Each year, part of the GIC Portfolio returns is tapped by the Government for its annual Budget and spent on key public services that improve the lives of Singaporeans.

President of Singapore to be elected directly by Singaporeans every six years. The President is independent of the Government and must not be a member of a political party.

The Constitution gives the President discretionary powers to protect the reserves not accumulated by a government during its current term of office. This is achieved using the two-key system: past reserves can be drawn down only in exceptional circumstances if the President, after consulting the Council of Presidential Advisers, agrees with the Government's proposal to draw on the past reserves. Past reserves have been drawn to fund special Budget measures rolled out during the Global Financial Crisis and more significantly in response to the COVID-19 pandemic.

As a Fifth Schedule company (a category that comprises key statutory boards and Government companies that are listed in the Fifth Schedule under the Constitution), GIC is directly accountable in a number of key areas to the President of Singapore. The President is empowered to access any information needed to safeguard the country's reserves and has full information about the size of the reserves. No one may be appointed to, or removed from, the GIC Board without the President's concurrence. This additional layer of control ensures that the company appoints only people of integrity who are competent and can be trusted to safeguard these assets.

The Government

The Government mandates GIC to manage Singapore's foreign reserves with the aim of achieving good long-term real returns. The mandate sets out the terms of appointment, investment objectives, investment horizon, risk parameters, and investment guidelines for managing the reserves. In particular, the overall risk that the Government is prepared for GIC to take in generating long-term investment returns is characterised by the Reference Portfolio.

The Government, represented by MOF, holds the GIC Board accountable for the overall portfolio performance. It does not direct or influence GIC's decisions on individual investments.

GIC provides monthly and quarterly reports to the Government through the Accountant-General of Singapore. These reports contain the financial statements, holdings, and bank account balances of

The Government mandates GIC to manage Singapore's foreign reserves with the aim of achieving good long-term real returns.

GIC. They also provide detailed performance and risk analytics, as well as the distribution of the portfolio by asset class, country and currency.

Once a year, the GIC Management formally meets the Minister for Finance and his officials to report on the risk and performance of the portfolio in the preceding financial year.

The Auditor-General of Singapore

The Auditor-General, who is appointed by the President of Singapore, submits an annual report to the President and Parliament on his audit of the Government and other bodies managing public funds. This audit includes the Government's portfolio managed by GIC and the main companies in the GIC Group - GIC Asset Management, GIC Real Estate, and GIC Special Investments. Other companies in the Group and the investment holding companies are audited by public accounting firms. These companies are also audited by GIC's internal audit.

The GIC Board

The GIC Board is responsible for GIC's Policy Portfolio, which determines the long-term asset allocation strategy, and for the overall performance of the

portfolio. GIC's asset allocation operates within the risk constraints determined by the Government in its mandate to GIC.

The Board is supported by five board committees.

Board Committees

1. Investment Strategies Committee

The Investment Strategies Committee reviews and evaluates management recommendations on asset allocation before they are submitted to the GIC Board for decision. The GIC Management reports to this committee on the performance of the portfolio. The committee recommends the key drivers for GIC's return and risk outcomes, and does not decide on specific deals.

2. Investment Board

The Investment Board provides oversight of GIC's investment processes and its implementation, with particular attention to large individual investments. It is not involved in asset allocation decisions, which are the responsibility of the GIC Board. It also ensures GIC does not take on undue reputational risk in pursuit of good returns.

3. Risk Committee

The Risk Committee advises the GIC Board on risk matters and supervises the effectiveness of risk management policies and practices. It reviews GIC's risk profile and significant risk issues arising from operations and investments.

4. Audit Committee

The Audit Committee reviews and assesses the adequacy and effectiveness of internal controls. These include financial, operational, and compliance controls, as well as risk management policies and systems. It also supervises and evaluates the effectiveness of the internal audit function. The committee reviews the integrity of the financial reporting process and other related disclosures for GIC companies, significant ethics violations, the impact of changes in the regulatory and legal environment, and issues of fraud and financial loss.

5. Human Resource & Organization Committee

The Human Resource & Organization Committee oversees organisational matters in GIC, including compensation policies, talent development, succession planning, and organisational development.

International Advisory Board

The International Advisory Board provides the GIC Board, board committees, and the GIC Management with global and regional perspectives on geopolitical, economic, and market developments. The advice and perspectives cover a range of investment-related matters; in particular, global investment trends, emerging asset classes, and new growth opportunities.

GIC Management

GIC Management formulates and executes investment strategies. Once the long-term asset allocation

strategy (as set out in its Policy Portfolio) is decided by the GIC Board, the management seeks to add value through an overlay of active, skill-based strategies (i.e. Active Portfolio). The management comprises five committees with clear reporting lines and accountability.

1. Group Executive Committee

The Group Executive Committee is the highest management body in GIC, bringing together the Group's functional and investment heads. The committee reviews and approves major business, governance, investment, and risk policy issues, which apply to the entire group, and oversees organisational management initiatives, business planning, and personnel matters (including succession planning, talent development, compensation, and performance management).

2. Investment Management Committee

The Investment Management Committee assists the Group Executive Committee in the review and implementation of investment policies and active strategies. It manages investment performance, within the investment framework agreed by the Group Executive Committee, through active monitoring of markets for investment themes and investible opportunities for the Portfolio and managing the risk-reward of the Active Portfolio.

3. Group Risk Committee

The Group Risk Committee provides oversight for the

risk management policies and practices of the GIC Group. The committee approves frameworks and policies relating to risk management in areas such as investment, credit, operations, information technology, tax, regulations, and compliance. It reviews the effectiveness of controls and monitors GIC's risk profile across all risk types. The committee also acts as a forum for the Chief Risk Officer to solicit views on the strategic risk management issues that would enable him to carry out his duties.

4. Corporate Management Committee

The Corporate Management Committee oversees enterprise-wide business frameworks and programmes for corporate management and business planning. These include policies on human resource, corporate administration, operations, office, and technology that are applicable to the organisation.

5. Sustainability Committee

The Sustainability Committee reviews and implements GIC's Sustainability Policy. The Committee decides on matters relating to GIC's stance on sustainability issues, drives the integration of sustainability into investment and corporate processes, coordinates GIC's partnership with global sustainability organisations and initiatives, and monitors and responds to emerging sustainability issues. The committee reports on GIC's sustainability profile and activities to the Group Executive Committee on a regular basis.

Governance Structure Overview

The following chart summarises the accountability of the GIC Board, International Advisory Board, and board committees.

		Terms of Reference
GIC Board		<ul style="list-style-type: none"> Responsible for the Policy Portfolio, which determines GIC's long-term asset allocation strategy, and for the overall performance of the GIC Portfolio. Does not approve individual investments which are the responsibilities of the GIC Management.
International Advisory Board		<ul style="list-style-type: none"> Provides views on market developments generally and, in particular, on the medium- to long-term outlook for investment opportunities around the world.
Board Committees	Investment Strategies Committee	<ul style="list-style-type: none"> Assists the GIC Board in evaluating the GIC Management's recommendations on asset allocation and in its oversight of overall portfolio performance. Recommends the key drivers for GIC's return and risk outcomes. Does not approve individual investments.
	Investment Board	<ul style="list-style-type: none"> Assists the GIC Board in its oversight of GIC's investment process, with particular attention to large individual investments.
	Risk Committee	<ul style="list-style-type: none"> Oversees the effectiveness of risk management policies and practices of the GIC Group.
	Audit Committee	<ul style="list-style-type: none"> Looks into the effectiveness of the internal control systems for safeguarding company assets and the Client's investment portfolio. Reviews the integrity of the financial reporting process, significant ethics violations, compliance with regulatory and legal requirements, and issues of fraud and financial losses.
	Human Resource & Organization Committee	<ul style="list-style-type: none"> Oversees organisational matters in GIC, including compensation policies, talent development, succession planning, and organisational development.
GIC Management		<ul style="list-style-type: none"> Formulates and executes investments strategies. Constructs the Active Portfolio, with an overlay of active, skill-based strategies.

6.2

GIC Board, Board Committees, and Management Committees

Board of Directors	Board Committees		International Advisory Board
	Investment Strategies Committee	Investment Board	
<p>Chairman Lee Hsien Loong</p> <p>Deputy Chairman Tharman Shanmugaratnam</p> <p>Directors Lawrence Wong Heng Swee Keat Teo Chee Hean Lim Hng Kiang Ang Kong Hua Peter Seah Lim Huat Hsieh Fu Hua Loh Boon Chye Gautam Banerjee Koh Boon Hwee Dr Tony Tan Keng Yam Seck Wai Kwong Lim Chow Kiat Dr Jeffrey Jaensubhakij</p>	<p>Chairman Tharman Shanmugaratnam</p> <p>Deputy Chairman Peter Seah Lim Huat</p> <p>Members Lawrence Wong Heng Swee Keat Chan Chun Sing Lim Hng Kiang Ang Kong Hua</p> <p>Advisors Dr Martin L Leibowitz G Leonard Baker Jr. Dr Mohamed El-Erian Carsten Stendevad Glenn Hutchins Dr Mark Machin <i>(appointed 1 April 2022)</i></p>	<p>Chairman Ang Kong Hua</p> <p>Members Hsieh Fu Hua Koh Boon Hwee G Leonard Baker Jr. Glenn Hutchins Tracey Woon <i>(appointed 1 October 2021)</i></p>	<p>Chairman Teo Chee Hean</p> <p>Members G Leonard Baker Jr. Dr Mohamed El-Erian Uday Kotak Carsten Stendevad Glenn Hutchins Dr Mark Machin <i>(appointed 1 April 2022)</i></p>
	Risk Committee	Audit Committee	
	<p>Chairman Lim Hng Kiang</p> <p>Members Loh Boon Chye Seck Wai Kwong Lam Kun Kin Ong Chong Tee Jeanette Wong <i>(appointed 1 October 2021)</i></p> <p>Advisor Dr Martin L Leibowitz</p>	<p>Chairman Gautam Banerjee <i>(appointed 15 January 2022)</i></p> <p>Members Loh Boon Chye Seck Wai Kwong <i>(appointed 15 January 2022)</i></p>	
		Human Resource & Organization Committee	
		<p>Chairman Peter Seah Lim Huat</p> <p>Members Gautam Banerjee Hsieh Fu Hua Koh Boon Hwee <i>(appointed 15 January 2022)</i></p>	

Management Committees

Group Executive Committee	Investment Management Committee	Group Risk Committee	Corporate Management Committee	Sustainability Committee
<p>Chairman Lim Chow Kiat Chief Executive Officer</p> <p>Members Dr Jeffrey Jaensubhakij Group Chief Investment Officer</p> <p>Tay Lim Hock Deputy Group Chief Investment Officer and Chief Operating Officer</p> <p>Lim Kee Chong Deputy Group Chief Investment Officer and Director, Integrated Strategies</p> <p>Jin Yuen Yee Chief Risk Officer</p> <p>Deanna Ong Chief People Officer</p> <p>Liew Tzu Mi Chief Investment Officer, Fixed Income</p> <p>Choo Yong Cheen Chief Investment Officer, Private Equity</p> <p>Bryan Yeo Chief Investment Officer, Public Equities</p>	<p>Chairman Dr Jeffrey Jaensubhakij Group Chief Investment Officer</p> <p>Members Jin Yuen Yee Chief Risk Officer</p> <p>Liew Tzu Mi Chief Investment Officer, Fixed Income</p> <p>Choo Yong Cheen Chief Investment Officer, Private Equity</p> <p>Bryan Yeo Chief Investment Officer, Public Equities</p> <p>Ang Eng Seng Chief Investment Officer, Infrastructure</p> <p>Lee Kok Sun Chief Investment Officer, Real Estate</p> <p>Kevin Bong Director, Economics & Investment Strategy</p> <p>Betty Tay Director, External Managers</p> <p>Sam Kim Director, Portfolio Execution</p> <p>Dr Prakash Kannan Chief Economist and Head, Total Portfolio Macro & Markets and Co-Head, Opportunistic Asset Allocation, Economics & Investment Strategy</p> <p>Arjun Khullar Head, Integrated Strategies</p>	<p>Chairman Jin Yuen Yee Chief Risk Officer</p> <p>Members Charles Lim General Counsel</p> <p>Kevin Bong Director, Economics & Investment Strategy</p> <p>Chan Hoe Yin Director, Investment Services (Private Markets and Finance)</p> <p>Leong Wing Kwan Director, Investment Services (Public Markets)</p> <p>Sam Kim Director, Portfolio Execution</p> <p>Larry Beck Director, Technology</p> <p>Edwin Choi Head, Portfolio Construction & Quant Strategies, External Managers</p> <p>Daniel Loo Head, Portfolio Solutions Group, Fixed Income</p> <p>Ravi Balasubramanian Head, India Equity Investments, Public Equities</p> <p>Goh Chin Kiong Head, Global Investments & Portfolio Strategy and Co-Head, Real Estate Asia ex China, Real Estate</p> <p>William Ng Head, Investment Risk Management, Risk & Performance Management</p> <p>John Tang Co-Head, Global Investments, Strategy & Risk, Private Equity</p>	<p>Chairman Tay Lim Hock Deputy Group Chief Investment Officer and Chief Operating Officer</p> <p>Members Deanna Ong Chief People Officer</p> <p>Charles Lim General Counsel</p> <p>Wong Ai Chiat Director, Corporate Administration & Infrastructure</p> <p>David Kiu Director, Corporate Affairs & Communications</p> <p>Taran Khera Director, Data Strategy</p> <p>Shang Thong Chie Director, Enterprise Strategy</p> <p>Peter Goh Director, Human Resource & Organization</p> <p>Vincent Cheang Director, Internal Audit</p> <p>Dr Rajesh Krishnamachari Director, Investment Insights</p> <p>Chan Hoe Yin Director, Investment Services (Private Markets and Finance)</p> <p>Leong Wing Kwan Director, Investment Services (Public Markets)</p> <p>Larry Beck Director, Technology</p> <p>Elaine Chan Deputy Director, Investment Services (Private Markets and Finance)</p> <p>William Ng Head, Investment Risk Management, Risk & Performance Management</p>	<p>Chairman Liew Tzu Mi Chief Investment Officer, Fixed Income</p> <p>Members Shang Thong Chie Director, Enterprise Strategy</p> <p>Leong Wing Kwan Director, Investment Services (Public Markets)</p> <p>Elaine Chan Deputy Director, Investment Services (Private Markets and Finance)</p> <p>Rachel Teo Head, Sustainability, Enterprise Strategy</p> <p>Boon Chin Hau Head, Infrastructure, Americas</p> <p>Doe Tien Xuan Head, Research, Public Equities</p> <p>Wolfgang Schwerdtle Head, Direct Investments Group, Latin America, Private Equity</p> <p>Daniel Lau Head, Enterprise Risk & Performance, Risk & Performance Management</p> <p>Hannah Garcia Co-Head, Equities, External Managers</p> <p>Ken Lim Deputy Head, Asia Pacific Equities, Public Equities</p> <p>Ong Sei Wei Managing Director, Integrated Strategies</p> <p>Han Hwee Chin Managing Director, Real Estate</p>

6.3

Organisational Structure

Board of Directors

International Advisory Board

Board Committee

Investment Strategies Committee Risk Committee Human Resource & Organization Committee

Investment Board Audit Committee

Group Executive Committee

[Lim Chow Kiat](#)
Chief Executive Officer

[Tay Lim Hock](#)
Deputy Group Chief Investment
Officer and Chief Operating Officer

[Jin Yuen Yee](#)
Chief Risk Officer

[Liew Tzu Mi](#)
Chief Investment Officer,
Fixed Income

[Bryan Yeo](#)
Chief Investment Officer,
Public Equities

[Dr Jeffrey Jaensubhakij](#)
Group Chief Investment Officer

[Lim Kee Chong](#)
Deputy Group Chief Investment Officer
and Director, Integrated Strategies

[Deanna Ong](#)
Chief People Officer

[Choo Yong Cheen](#)
Chief Investment Officer,
Private Equity

Corporate Headquarters

[Wong Ai Chiat](#)
Corporate Administration
& Infrastructure

[David Kiu](#)
Corporate Affairs
& Communications

[Taran Khera](#)
Data Strategy

[Shang Thong Chie](#)
Enterprise Strategy

[Deanna Ong](#)
Governance & Client
Relations

[Peter Goh](#)
Human Resource &
Organization

[Vincent Cheang](#)
Internal Audit

[Rajesh Krishnamachari](#)
Investment Insights

[Chan Hoe Yin](#)
Investment Services
(Private Markets and Finance)

[Leong Wing Kwan](#)
Investment Services
(Public Markets)

[Charles Lim](#)
Legal & Compliance

[Jin Yuen Yee](#)
Risk & Performance
Management

[Larry Beck](#)
Technology

Investment Groups

Public Equities
[Bryan Yeo](#)
Chief Investment Officer

Fixed Income
[Liew Tzu Mi](#)
Chief Investment Officer

Private Equity
[Choo Yong Cheen](#)
Chief Investment Officer

Real Estate
[Lee Kok Sun](#)
Chief Investment Officer

Infrastructure
[Ang Eng Seng](#)
Chief Investment Officer

Integrated Strategies
[Lim Kee Chong](#)
Director

External Managers
[Betty Tay](#)
Director

Portfolio Execution
[Sam Kim](#)
Director

**Economics &
Investment Strategy**
[Kevin Bong](#)
Director

Dr Prakash Kannan
Chief Economist

Global Offices

[Eric Wilmes](#)
President (Americas)

[Arjun Gupta](#)
President (Europe)

[Sharon Sun](#)
Beijing

[Kishore Gotety](#)
Mumbai

[Adam Gallistel](#)
New York

[Eric Wilmes](#)
San Francisco

[Wolfgang Schwerdtle](#)
São Paulo

[Cai Wenzheng](#)
Seoul

[Li Yu](#)
Shanghai

[Sunny Tsun](#)
Sydney

[Ken Sugimoto](#)
Tokyo

6.4

Board, Board Committee Members, and Advisors



[Lee Hsien Loong](#)
Prime Minister

Chairman, GIC Board

Lee Hsien Loong has been Singapore's Prime Minister since 2004. Mr Lee is the Secretary-General of the People's Action Party (PAP). He was first elected Member of Parliament (MP) in 1984, and has been re-elected eight times, most recently as an MP for the Ang Mo Kio Group Representation Constituency. Mr Lee is Chairman of GIC, and also chairs the Research, Innovation and Enterprise Council, an international panel that provides strategic direction for Singapore's Research and Development efforts.

Before becoming Prime Minister, Mr Lee had held various Ministerial appointments, including

being Deputy Prime Minister, Minister for Finance, Minister in the Prime Minister's Office, Minister for Trade and Industry and Second Minister for Defence. He was concurrently the Chairman of the Monetary Authority of Singapore from 1998 to 2004. Before joining politics, Mr Lee had served in the Singapore Armed Forces, retiring as a Brigadier-General.

Mr Lee holds a B.A. in Mathematics and a Diploma in Computer Science from the University of Cambridge. He holds a Master in Public Administration and is a Mason Fellow at the Harvard Kennedy School.



[Tharman Shanmugaratnam](#)
Senior Minister and Coordinating
Minister for Social Policies

Deputy Chairman, GIC Board Chairman, GIC Investment Strategies Committee

Tharman Shanmugaratnam is Senior Minister, Singapore. He is also Coordinating Minister for Social Policies, and advises the Prime Minister on economic policies. He is, concurrently, Chairman of the Monetary Authority of Singapore. He is Deputy Chairman of GIC and chairs the Investment Strategies Committee. Tharman was Deputy Prime Minister from 2011 to 2019, and served as Minister for Finance from 2007 to 2015. Tharman also chairs the Group of Thirty, an independent global council of economic and financial leaders. He co-chairs the Global Commission on the Economics of Water, and is on the recently launched UN High-Level

Advisory Board on Effective Multilateralism. He co-chaired the G20 High Level Independent Panel on financing pandemic security in 2021, and earlier chaired the G20 Eminent Persons Group on Global Financial Governance in 2017-2018, and the International Monetary and Financial Committee, the key policy forum of the IMF, over 2011-2014.

Tharman studied economics at the London School of Economics and Political Science and Cambridge University. He later obtained a Master in Public Administration at Harvard Kennedy School, where he received the Lucius N Littauer Fellow award.



[Lawrence Wong](#)

Deputy Prime Minister and Minister for Finance

Director, GIC Board
Member, GIC Investment Strategies Committee

Lawrence Wong is Singapore's Deputy Prime Minister and the Minister for Finance. He is a member of the GIC Investment Strategies Committee. He is Deputy Chairman of the Monetary Authority of Singapore. He also chairs the Singapore Labour Foundation, and is a member of the Research Innovation and Enterprise Council and the National Research Foundation Board. Mr Wong began his career as a civil servant, and held positions such as Chief Executive of the Energy Market Authority and the Principal Private Secretary to Prime Minister Lee Hsien Loong. He was elected a Member of Parliament in May 2011 and subsequently held ministerial appointments in Defence, Education, Communications and Information, Culture, Community and Youth, and National Development.

Mr Wong obtained his Bachelor's and Master's degrees in Economics from the University of Wisconsin-Madison and the University of Michigan, Ann Arbor, respectively. He also holds a Master in Public Administration from the Harvard Kennedy School.



[Heng Swee Keat](#)

Deputy Prime Minister and Coordinating Minister for Economic Policies

Director, GIC Board
Member, GIC Investment Strategies Committee

Heng Swee Keat is Singapore's Deputy Prime Minister and Coordinating Minister for Economic Policies. He is a member of the GIC Investment Strategies Committee. Mr Heng chairs the Future Economy Council and the National Research Foundation. He also served as Minister for Education from 2011 to 2015 and Minister for Finance from 2015 to 2021. Before entering politics in 2011, he was Managing Director of the Monetary Authority of Singapore. He also served as Permanent Secretary of the Ministry of Trade and Industry, as well as CEO of the then-Trade Development Board. Between 1997 and 2000, he was Principal Private Secretary to then-Senior Minister Lee Kuan Yew.

Mr Heng holds a Master of Arts in Economics from Cambridge University, and a Master in Public Administration from the Harvard Kennedy School.



[Teo Chee Hean](#)

Senior Minister and Coordinating Minister for National Security

Director, GIC Board
Chairman, GIC International Advisory Board

Teo Chee Hean is Senior Minister and Coordinating Minister for National Security. He chairs the GIC International Advisory Board. He currently oversees the Smart Nation and Digital Government Group, National Security Coordination Secretariat, National Population and Talent Division, and National Climate Change Secretariat under the Prime Minister's Office. He was Deputy Prime Minister from 2009 to 2019, and has served as Minister for Home Affairs, Minister for Defence, Minister for Education, and Minister for the Environment. He also served as Minister of State in the Ministries of Finance, Communications and Defence. Prior to entering politics in 1992, he was the Chief of Navy holding the rank of Rear Admiral.

Mr Teo graduated with a Bachelor of Science (First Class Honours) in Electrical Engineering and Management Science from the University of Manchester. He holds a Master of Science (Distinction) in Computing Science from Imperial College and a Master in Public Administration from Harvard University.



[Lim Hng Kiang](#)

Special Advisor to Ministry of Trade and Industry

Director, GIC Board
Chairman, GIC Risk Committee
Member, GIC Investment Strategies Committee

Lim Hng Kiang is the Special Advisor to the Ministry of Trade and Industry. He chairs the GIC Risk Committee and is a member of the Investment Strategies Committee. He sits on the Monetary Authority of Singapore board. Previously, Mr Lim was Minister for Trade and Industry from 2004 to 2015, when the Ministry was carved into two portfolios. He was then appointed Minister for Trade and Industry (Trade) until he stepped down in May 2018. He has held ministerial appointments in National Development, Health, Foreign Affairs, Finance and the Prime Minister's Office. Before entering politics in 1991, he was Deputy Secretary in the Ministry of National Development.

Mr Lim graduated from Cambridge University with First Class Honours (Distinction) in Engineering. He later earned a Master in Public Administration from Harvard University.

	<p>Director, GIC Board Chairman, GIC Investment Board Member, GIC Investment Strategies Committee</p> <p>Ang Kong Hua is the Chairman of Sembcorp Industries. He chairs the GIC Investment Board and is a member of the Investment Strategies Committee. He has helmed several of Singapore's biggest companies, bringing years of experience spanning the manufacturing, services and financial sectors. Mr Ang started his career at the Economic Development Board. He then joined DBS Bank at its inception in 1968 and pioneered its investment banking division. From 1974, he was CEO of NSL (formerly NatSteel) until he retired in 2003, and stayed as its Executive Director until 2010. He was previously Chairman of Singapore Telecommunications and Singapore Post, Vice Chairman of Neptune Orient Lines, and a Director of DBS Bank, CIMC Raffles Offshore (Singapore) and k1 Ventures.</p> <p>Mr Ang holds a Bachelor of Science (Honours) in Economics from the University of Hull.</p>		<p>Director, GIC Board Chairman, GIC Human Resource & Organization Committee Deputy Chairman, GIC Investment Strategies Committee</p> <p>Peter Seah Lim Huat is the Chairman of DBS Group Holdings. He chairs GIC's Human Resource & Organization Committee, and is Deputy Chairman of the Investment Strategies Committee. He heads the boards of Singapore Airlines, LaSalle College of the Arts, and chairs the National Wages Council. He was a banker for 33 years before retiring as Vice Chairman and CEO of the former Overseas Union Bank in 2001. He was also President and CEO of the Singapore Technologies Group. Mr Seah also serves on the boards of Fullerton Financial Holdings and STT Communications. In 2021, he was awarded The Order of Nila Utama (With Distinction) by the President of Singapore.</p> <p>Mr Seah holds an honours degree in Business Administration from the University of Singapore.</p>
<p>Ang Kong Hua <i>Chairman</i> <i>Sembcorp Industries Ltd</i></p>		<p>Peter Seah Lim Huat <i>Chairman</i> <i>DBS Group Holdings Ltd</i></p>	
	<p>Director, GIC Board Member, GIC Investment Board Member, GIC Human Resource & Organization Committee</p> <p>Hsieh Fu Hua is Co-Founder and Advisor to the PrimePartners Group, Chairman of Eastspring Investments Group Pte Ltd and of GXS Bank Pte Ltd. He is a member of the GIC Investment Board and the Human Resource & Organization Committee. He also serves on the boards of several non-profit organizations. He chairs the National University of Singapore and the National University Health System. Previously, he was President of the National Council of Social Service, Chairman of Stewardship Asia Centre and Chairman of the National Gallery Singapore. Mr Hsieh started his career in merchant banking and capital markets in 1974 when he joined Morgan Grenfell Asia Holdings upon graduation, eventually rising to head the organization. He subsequently served as Group Managing Director of BNP Prime Peregrine Group Hong Kong, CEO of Singapore Exchange, President of Temasek Holdings, Chairman of Tiger Airways, Chairman of United Overseas Bank and Chairman of Asia Capital Reinsurance Group Pte Ltd.</p> <p>Mr Hsieh graduated from the NUS Business School.</p>		<p>Director, GIC Board Member, GIC Risk Committee Member, GIC Audit Committee</p> <p>Loh Boon Chye is the CEO of Singapore Exchange (SGX Group). He is a member of the GIC Risk Committee and GIC Audit Committee. With a finance career that spans three decades, he has played a key role in the development of Southeast Asia's capital markets. Prior to SGX Group, he was Deputy President and Head of Asia Pacific Global Markets, and Country Executive for Singapore and Southeast Asia at Bank of America-Merrill Lynch. He spent 17 years in Deutsche Bank where his last role was the Head of Corporate and Investment Banking for Asia Pacific. He started his career with the Monetary Authority of Singapore and Morgan Guaranty Trust Co. of New York. Mr Loh serves on the boards of Economic Development Board Singapore and World Federation of Exchanges, and sits on the Glasgow Financial Alliance for Net Zero Principals Group. He is also a member of the Independent Advisory Committee in the UN Sustainable Stock Exchange Initiative.</p> <p>Mr Loh holds a Bachelor of Engineering degree from the National University of Singapore.</p>
<p>Hsieh Fu Hua <i>Co-Founder and Advisor</i> <i>PrimePartners Group</i></p>		<p>Loh Boon Chye <i>Chief Executive Officer</i> <i>SGX Group</i></p>	

	<p>Director, GIC Board Chairman, GIC Audit Committee Member, GIC Human Resource & Organization Committee</p> <p>Gautam Banerjee is a Senior Managing Director and Chairman of Blackstone Singapore. He chairs the GIC Audit Committee and is a member of the GIC Human Resource & Organization Committee. Before joining Blackstone, Mr Banerjee spent over 30 years with PricewaterhouseCoopers, serving as Executive Chairman of PwC Singapore for nine years until he retired in 2012. He serves on the boards of Singapore Airlines and Singapore Telecommunications Ltd. He is also the Chairman of Singapore Centre for Social Enterprise (raiSE).</p>		<p>Director, GIC Board Member, GIC Investment Board Member, GIC Human Resource & Organization Committee</p> <p>Koh Boon Hwee is the Chairman of Altara Ventures Pte Ltd. He sits on the GIC Investment Board and the GIC Human Resource & Organization Committee. He is also the Chairman of Sunningdale Tech, Rippledot Capital Advisers, the Securities Industry Council and Agilent Technologies, and a Director of Singapore Exchange Limited. He started his career in 1977 at Hewlett-Packard and rose to become its Managing Director in Singapore from 1985 to 1990. He was Executive Chairman of the Wuthelam Group from 1991 to 2000. Mr Koh was also the Chairman of Singapore Telecom, Singapore Airlines and DBS Bank at various times.</p>
<p>Gautam Banerjee <i>Senior Managing Director and Chairman Blackstone Singapore</i></p>	<p>Mr Banerjee holds a Bachelor of Science (Honours) in Accounting and Financial Analysis and an Honorary Doctor of Laws (LLD) from the University of Warwick. He is a Fellow of the Institute of Chartered Accountants in England and Wales, the Institute of Singapore Chartered Accountants and the Singapore Institute of Directors.</p>	<p>Koh Boon Hwee <i>Chairman Altara Ventures Pte Ltd</i></p>	<p>Mr Koh holds a Bachelor's Degree (First Class Honours) in Mechanical Engineering from Imperial College London, and a Master in Business Administration (Distinction) from Harvard Business School. He also received honorary doctorates from Imperial College London and Nanyang Technological University.</p>
	<p>Director, GIC Board</p> <p>Dr Tony Tan Keng Yam has served as the Minister for Finance, Trade and Industry, Education and Deputy Prime Minister and Co-ordinating Minister for Security and Defence. He was the Chairman and CEO of OCBC Bank from 1992 to 1995. In September 2005, after leaving the Cabinet, Dr Tan was appointed Deputy Chairman and Executive Director of GIC, Chairman of the National Research Foundation and Chairman of SPH. In July 2011, Dr Tan contested in the Presidential Election and was sworn in as the seventh President of the Republic of Singapore on 1 September 2011 for a 6-year term. In September 2017, he was appointed the Honorary Patron and Distinguished Senior Fellow at Singapore Management University.</p>		<p>Director, GIC Board Member, GIC Risk Committee Member, GIC Audit Committee</p> <p>Seck Wai Kwong is the Chief Executive Officer of Eastspring Investments Group, the Asian investment management arm of Prudential plc. He is a member of the GIC Risk Committee and GIC Audit Committee. He joined Eastspring in April 2019 from State Street Bank and Trust Company, where he was Chief Executive Officer, Asia Pacific. Prior to joining State Street, he was Chief Financial Officer of the Singapore Exchange from 2003 to 2011 and has held senior positions in the Monetary Authority of Singapore, GIC, Lehman Brothers and DBS Bank. He is a Trustee and chairs the Investment Committee at the Singapore Police Force's pension fund. He serves on the Advisory Council of the Hong Kong University of Science and Technology – School of Business and Management.</p>
<p>Dr Tony Tan Keng Yam <i>Special Advisor GIC</i></p>	<p>Dr Tan graduated from the University of Singapore with a First Class Honours Degree in Physics. He holds a Master of Science degree from MIT and a PhD in Applied Mathematics from the University of Adelaide.</p>	<p>Seck Wai Kwong <i>Chief Executive Officer Eastspring Investments Group</i></p>	<p>Mr Seck graduated with First Class Honours in Economics from Monash University where he is a Vice Chancellor Professorial Fellow. He also holds a Master in Business Administration from the Wharton School at the University of Pennsylvania.</p>



[Chan Chun Sing](#)
Minister for Education,
Minister-in-charge of
Public Service

Member, GIC Investment Strategies Committee

Chan Chun Sing is Minister for Education. He is concurrently Minister-in-charge of the Public Service. Mr Chan served with the Singapore Armed Forces (SAF) from 1987 to 2011. He was elected a Member of Parliament in May 2011 and subsequently held positions in various ministries, including as Minister for Social and Family Development, 2nd Minister for Defence and Minister for Trade and Industry. Mr Chan was also Secretary-General of the National Trades Union Congress and Minister in the Prime Minister's Office.

Mr Chan holds a Bachelor's degree (First Class Honours) in Economics from Cambridge University under the SAF (Overseas) and President's Scholarship. He was awarded the Distinguished Master Strategist Award 1998 by the US Army Command and Staff College. In 2005, he completed the Sloan Fellows Programme at the Massachusetts Institute of Technology under the Lee Kuan Yew Scholarship.



[Tracey Woon](#)
Former Vice Chairman of
Global Wealth Management
(Asia Pacific)
UBS AG

Member, GIC Investment Board

Tracey Woon is a member of the GIC Investment Board. She has more than 35 years of investment banking experience and has worked on corporate finance transactions, debt offerings and advisory work, including takeovers of public companies in Singapore and ASEAN. Previously at UBS AG, she was the Vice Chairman of Global Wealth Management (Asia Pacific). In that role, she advised UBS' key clients and business owners, drawing on her deep understanding of international capital markets and her investment banking experience. She was also responsible for the UBS' Women Initiative in Asia Pacific. Prior to joining UBS, Ms Woon was the Vice Chairman of Citibank's ASEAN Corporate and Investment Banking division. She is currently a Board Director of United Overseas Bank and National University Health System, as well as a council member of the Singapore Red Cross. She is also a member of the Securities Industry Council and the Listings Advisory Committee of the Singapore Exchange.

She holds a Bachelor of Law (Honours) from the National University of Singapore. She was also conferred 2016 IBF Distinguished Fellow Award.



[Lam Kun Kin](#)
Former Senior Executive
Vice President,
Former Head of Global
Treasury & Investment
Banking
Oversea-Chinese Banking
Corporation (OCBC)

Member, GIC Risk Committee

Lam Kun Kin was Senior Executive Vice President and Head of Global Treasury & Investment Banking at OCBC Bank. He is a member of the GIC Risk Committee. Previously at OCBC, he was responsible for the Global Markets businesses and Asset Liability management, and also had oversight of the Global Investment Banking businesses till early 2020. Prior to joining OCBC, Mr Lam held senior management positions at GIC, Citibank Singapore and Temasek Holdings. He was appointed by the Monetary Authority of Singapore as Co-Chairman of the Singapore Foreign Exchange Market Committee and Chair of the enhanced SIBOR committee till 2020. Mr Lam held previous Board positions in Adira Finance (Indonesia), OCBC Securities (Singapore), Bank of Singapore and AVIC Trust (China). Currently, he serves as deputy President on the board of REACH Community Service Society.

Mr Lam holds a Bachelor of Accountancy (Honours) from the National University of Singapore. He is a Chartered Financial Analyst, Fellow Chartered Accountant of Singapore, and Institute of Banking and Finance (IBF) Distinguished Fellow.



[Ong Chong Tee](#)
Chairman
ACRA

Member, GIC Risk Committee

Mr Ong Chong Tee is the Chairman of Accounting and Corporate Regulatory Authority (ACRA) from July 2022, having joined the Board as its Deputy Chairman in April 2021. He is a member of the GIC Risk Committee. Previously, Mr Ong was with the Monetary Authority of Singapore (MAS) for 35 years and held senior positions including in the areas of reserve management, central banking monetary operations, market development and financial supervision. As MAS' Deputy Managing Director of Financial Supervision from 2014 to 2021, Mr Ong oversaw the regulations and supervision of the banking, insurance and capital markets, as well as in payment services, technology risks and money laundering risks. Mr Ong was also responsible for MAS' Enforcement function.

Mr Ong holds an Honours Degree in Chemical Engineering from the National University of Singapore. He was awarded the Public Administration Medal (Gold) in August 2007 and Public Administration Medal (Gold) (Bar) in August 2021 by the President of Singapore.

	<p>Member, GIC Risk Committee</p> <p>Jeanette Wong is a member of the GIC Risk Committee. She has over 35 years of operational experience in financial services. Before her retirement in March 2019, she was Group Executive at DBS Bank, responsible for the Institutional Banking Group. She was also Director of DBS Bank (China) Limited, Chairperson of DBS Bank (Taiwan) Ltd, and the Chief Financial Officer of DBS Group. Prior to joining DBS, Ms Wong held various roles at Banque Paribas, Citibank and JP Morgan. She currently sits on the boards of Singapore Airlines, UBS Group AG and UBS AG, Prudential plc, PSA International Pte Ltd and Jurong Town Corporation. She is a member of the Securities Industry Council and a member of the Board of Trustees at National University of Singapore. She is also the Chair of NUS Business School Management Advisory Board and CareShield Life Council under MOH.</p> <p>Ms Wong holds an MBA from the University of Chicago and a BA in Business Administration from the National University of Singapore.</p>		<p>Advisor, GIC Investment Strategies Committee Advisor, GIC Risk Committee</p> <p>Dr Martin L. Leibowitz is President of Advanced Portfolio Studies LLC and a Senior Advisor of Morgan Stanley. He is an advisor to the GIC Investment Strategies Committee and Risk Committee. Prior to joining Morgan Stanley as a Managing Director in the Research Department, Dr Leibowitz was the Vice Chairman and Chief Investment Officer of TIAA-CREF, responsible for the management of more than US\$300 billion in equity, fixed income and real estate assets. He was also Director of Global Research at Salomon Brothers, and has received wide recognition for his writings on various financial topics and investment analysis. He now serves on the investment advisory committees of The Rockefeller Foundation, The Carnegie Foundation, the IMF Pension Fund, the American Academy of Arts and Sciences and The Institute for Advanced Study. In 2021, he was conferred the Public Service Star Award in Singapore for his contributions in the areas of investment and policy portfolio management.</p> <p>Dr Leibowitz holds both Bachelor of Arts and Master of Science degrees from the University of Chicago and a PhD in Mathematics from the Courant Institute of New York University.</p>
<p>Jeanette Wong <i>Former Group Executive DBS Bank</i></p>		<p>Dr Martin Leibowitz <i>Senior Advisor Morgan Stanley</i></p>	
	<p>Member, GIC International Advisory Board Member, GIC Investment Board Advisor, GIC Investment Strategies Committee</p> <p>Leonard Baker is a Limited Partner at Sutter Hill Ventures. He advises GIC's Investment Strategies Committee and sits on the Investment Board. He was a trustee of Yale University, where he chaired the Finance Committee and served on the Yale Investment Committee from 1990 to 2015. Mr Baker is a board member of Stanford Management Company, advises the David and Lucile Packard Foundation Investment Committee, and is a board member of the US Environmental Defense Fund. He is also a member of the Board of Trustees of Berklee College of Music in Boston. He was conferred the Public Service Star Award in 2005 and the Public Service Star Award (Bar) in 2021 in Singapore for his contributions in the areas of education and investment management.</p> <p>Mr Baker holds a Bachelor of Arts in Mathematics from Yale University and a Master in Business Administration from Stanford University.</p>		<p>Member, GIC International Advisory Board Advisor, GIC Investment Strategies Committee</p> <p>Dr Mohamed El-Erian is President of Queens' College Cambridge, Chief Economic Advisor at Allianz, and Chair of the Gramercy Funds. He is an advisor to the GIC Investment Strategies Committee. He serves on the boards of Barclays and Under Armour. Previously, he was CEO and co-CIO of PIMCO from 2007 to 2014, and former chair of President Obama's Global Development Council. He was President and CEO of Harvard Management Company, Managing Director at Salomon Smith Barney/Citigroup, and Deputy Director at the International Monetary Fund in Washington, DC. Dr El-Erian writes regularly, and is a Financial Times Contributing Editor and Bloomberg Opinion columnist. He has two New York Times' best sellers – the 2008 “When Markets Collide” and the 2016 “The Only Game in Town” – and was named four years in a row to the Foreign Policy list of Top Global Thinkers.</p> <p>Dr El-Erian holds a BA in Economics from Cambridge University, as well as a Master's and PhD in Economics from Oxford University.</p>
<p>G. Leonard Baker Jr. <i>Limited Partner Sutter Hill Ventures</i></p>		<p>Dr Mohamed El-Erian <i>Chief Economic Advisor Allianz</i></p>	



[Uday Kotak](#)

*Managing Director and CEO
Kotak Mahindra Bank*

Member, GIC International Advisory Board

Uday Kotak is Founder, Managing Director and Chief Executive Officer of Kotak Mahindra Bank Limited (KMBL). He has led the group in a broad range of financial services for over 36 years. Mr Kotak believes that the true measure of performance is sustainable value creation. Today, KMBL is among India's most efficient, high-performing and trusted banks. The Group's vision for equitable prosperity extends beyond financial services. The Kotak Education Foundation works with some of India's most economically underprivileged communities, attempting to alleviate poverty through education and livelihood programmes. Mr Kotak is a member of the International Advisory Panel of Monetary Authority of Singapore. He has been awarded the Ernst & Young World Entrepreneur of the Year Award in 2014.

Mr Kotak holds a Bachelor's degree in Commerce and a Master's in Management Studies degree from Jamnalal Bajaj Institute of Management Studies, Mumbai.



[Carsten Stendevad](#)

*Co-Chief Investment
Officer for Sustainability
Bridgewater Associates*

**Member, GIC International Advisory Board
Advisor, GIC Investment Strategies Committee**

Carsten Stendevad joined Bridgewater in 2017. He serves as Co-CIO for Sustainability and oversees the firm's activities in China. Mr Stendevad is an advisor to the GIC Investment Strategies Committee. He is also a Board Member of Novo Holdings and the Danish Recapitalization Fund. Prior to Bridgewater, Mr Stendevad was the CEO of ATP and a Managing Director in Citi's Investment Banking Division. Earlier in his career, Mr Stendevad worked at McKinsey & Company and the Central Bank of Denmark. He served on the Global Steering Committee for the Blended Finance Taskforce, and on the Danish Committee for Corporate Governance.

He is a recipient of the Order of Dannebrog awarded by HMQ Margrethe II of Denmark. Mr Stendevad holds a Bachelor of Science and Master of Science degree in Economics from the University of Copenhagen and a Master of Public Policy from the Harvard Kennedy School of Government.



[Glenn Hutchins](#)

*Chairman
North Island*

**Member, GIC International Advisory Board
Member, GIC Investment Board
Advisor, GIC Investment Strategies Committee**

Glenn Hutchins is Chairman of North Island and North Island Ventures and a co-founder of Silver Lake. He is an advisor to the GIC Investment Strategies Committee and sits on the Investment Board. He is a director of AT&T and Digital Currency Group; Co-Chairman of the Brookings Institution, Chair of CARE and Vice Chair of the Obama Foundation; on the Executive Committee of the Boston Celtics Basketball Team; and a board member of the New York Presbyterian Hospital. He also founded the Hutchins Family Foundation to manage his philanthropic initiatives in academic research and public policy. Mr Hutchins was Director and Chair of the Audit and Risk Committee of the Federal Reserve Bank of New York from 2011 to 2020. He previously served President Clinton in both the transition and the White House as a special advisor on economic and healthcare policy.

Mr Hutchins holds a Bachelor of Arts from Harvard College, a Master in Business Administration from Harvard Business School, and a Juris Doctor degree from Harvard Law School. He is also a Fellow of the American Academy of Arts and Sciences.



[Dr Mark Machin](#)

*Board Member
Serendipity Capital*

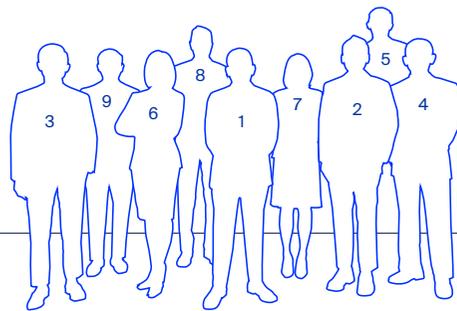
**Member, GIC International Advisory Board
Advisor, GIC Investment Strategies Committee**

Dr Mark Machin is currently a board member of Serendipity Capital. He is also an advisor to the GIC Investment Strategies Committee. From 2016 to 2021, he served as the President and Chief Executive Officer of Canada Pension Plan Investments (CPP Investments, previously known as CPPIB). He joined CPP Investments in 2012 and was Senior Managing Director and Head of International based in Hong Kong. Prior, Dr Machin had a 20-year career at Goldman Sachs in London and Hong Kong where for 11 years he headed Capital Markets and Investment Banking in Asia ex-Japan. He is also on the board of the Atlantic Council.

Dr Machin holds a Bachelor of Arts in Physiological Sciences from Oxford University and a Bachelor of Medicine and Bachelor of Surgery from Cambridge University.

6.5

Executive Management



1 [Lim Chow Kiat](#)
Chief Executive Officer

2 [Dr Jeffrey Jaensubhakij](#)
Group Chief Investment Officer

3 [Tay Lim Hock](#)
Deputy Group Chief
Investment Officer and
Chief Operating Officer

4 [Lim Kee Chong](#)
Deputy Group Chief
Investment Officer and
Director, Integrated Strategies

5 [Jin Yuen Yee](#)
Chief Risk Officer

6 [Deanna Ong](#)
Chief People Officer

7 [Liew Tzu Mi](#)
Chief Investment Officer,
Fixed Income

8 [Choo Yong Cheen](#)
Chief Investment Officer,
Private Equity

9 [Bryan Yeo](#)
Chief Investment Officer,
Public Equities

[Lim Chow Kiat](#)*Chief Executive Officer***Director, GIC Board**

Lim Chow Kiat was appointed Chief Executive Officer in January 2017. He chairs the Group Executive Committee in governing and reviewing all key investment, risk and business decisions. He is overall responsible for the performance of GIC, and oversees the development and execution of long-term strategies. Mr Lim was previously Group Chief Investment Officer of GIC and Deputy Group President. He joined GIC as a portfolio manager upon graduation in 1993 and rose to head the Fixed Income, Currency and Commodities Department. He was President, Europe in 2009, overseeing investments and relationships in Europe, Africa and the Middle East before his appointment as President of GIC Asset Management in 2011. Mr Lim is the Chairman of the Wealth Management Institute and serves on the boards of Nanyang Technological University, National Research Foundation, Enterprise Singapore and FCLTGlobal. He is also a member of Agence France Trésor's Strategic Committee and the WEF International Business Council.

Mr Lim holds a Bachelor's degree (First Class Honours) in Accountancy from Nanyang Technological University.

[Dr Jeffrey Jaensubhakij](#)*Group Chief Investment Officer***Director, GIC Board**

Dr Jeffrey Jaensubhakij was appointed Group Chief Investment Officer in January 2017. He oversees GIC's total investment portfolio, and works with investment group heads to manage and monitor investment activities across all asset classes. He also leads the development of short- and long-term investment policies to optimize the risk-reward of the total portfolio across changing investment environments. He joined GIC in 1998 as a Senior Economist covering the US economy and was subsequently appointed Co-Head of Asset Allocation Strategy in the Economics & Strategy Department. He was Head of Total Return Equities and the US Equities teams based in GIC's New York Office from 2003 to 2011. He was subsequently appointed President, Europe in 2011 coordinating GIC's investment activities in Europe across public and private asset classes, President, Public Markets and Director of Public Equities in 2013, and Deputy Group Chief Investment Officer in 2016.

Dr Jaensubhakij holds a Bachelor of Arts degree in Economics from Cambridge University, as well as a Master's and a PhD in Economics from Stanford University.

[Tay Lim Hock](#)*Deputy Group Chief Investment Officer and Chief Operating Officer*

Tay Lim Hock was appointed Chief Operating Officer in July 2019, concurrent to his role as Deputy Group Chief Investment Officer. As COO, he oversees enterprise-wide investment services, technology, and corporate administration. As Deputy GCIO, he supports the Group CIO in overseeing GIC's investment portfolio. He joined GIC's Asian Private Equity (PE) team in 1995, and was posted to London in 2000 as Head PE Europe and to San Francisco in 2003 as Head PE US. He became PE's Global Head of the Funds and Co-Investment Group in 2008, and President of PE & Infrastructure in 2011. Mr Tay returned to London as President (Europe) and Deputy GCIO in 2017. Prior to GIC, he worked as an Aeronautical Engineer with the Republic of Singapore Air Force.

Mr Tay holds a Masters in Aeronautical Engineering from l'Ecole Nationale de l'Aviation Civile, and completed the Stanford Executive Program.

Lim Kee Chong

Deputy Group Chief Investment Officer, and Director, Integrated Strategies



Lim Kee Chong was appointed Deputy Group Chief Investment Officer and Director of Integrated Strategies Group in April 2013. In these roles, he supports the Group CIO in overseeing GIC's entire investment portfolio and heads a unit that looks at opportunities in both public and private companies. He joined GIC in 1987, built his career in the Equities Department and was appointed Head of Global Equities in 2010. During his tenure at GIC, he has managed portfolios running the gamut of developed market equities, as well as global sector and global equities portfolios. He was President (Americas) and based in GIC's New York office from January 2017 to March 2022, providing leadership oversight for GIC's operations and driving regional strategic collaboration, business development and culture across the GIC teams in Americas.

Mr Lim holds a Bachelor's degree in Economics from the University of Tokyo, where he studied under a government scholarship.

Jin Yuen Yee

Chief Risk Officer



Jin Yuen Yee was appointed Chief Risk Officer in April 2020. He heads the overall risk function for GIC, and oversees the implementation of risk policies, manages significant risk issues from investments and operations. Prior to this, he was Deputy Chief Risk Officer and Director of Risk and Performance Management Department. Since joining GIC in 2002 as a portfolio manager in Foreign Exchange, Mr Jin has held several roles such as Head of Treasury and Currency Management, Head of Real Return Programme, Head of Fixed Income Global Macro, and Head of Fixed Income Macro Research and Strategy. Mr Jin served as the Senior Special Assistant to the Chief Executive Officer and Group Chief Investment Officer from 2015 to 2017. Mr Jin serves on the Temasek Polytechnic Board of Governors.

Mr Jin holds a Diploma in Marketing from the Chartered Institute of Marketing, a Master of Science in Wealth Management from Singapore Management University and a Master of Engineering from the Technical University of Berlin.

Deanna Ong

Chief People Officer



Deanna Ong was appointed Chief People Officer in April 2017. She oversees human resource strategy to attract, develop and retain talent for enterprise performance, seeded with the right values and culture for GIC. Her areas of focus include leadership development, reward and engagement for business effectiveness, and organisational culture. She has been responsible for Human Resource & Organisation and Corporate Governance since 2012. Ms Ong was Director, Finance from 2009 to 2014, during which she headed the Finance Group responsible for financial management across GIC's portfolio, covering financing arrangements for assets, tax planning, investment holding structures, accounting and management of group revenue and expenditure. Prior to joining GIC in 1994, she was a tax accountant with Arthur Andersen. Prior to joining GIC in 1994, she was a tax accountant with Arthur Andersen. Ms Ong is currently a board member of Swiss Re Ltd and Wealth Management Institute International Pte Ltd.

Ms Ong holds a Bachelor of Accountancy from Nanyang Technological University. She has completed the Stanford Executive Program from the Stanford University Graduate School of Business.

Liew Tzu Mi

*Chief Investment Officer,
Fixed Income*



Liew Tzu Mi was appointed Chief Investment Officer for Fixed Income in July 2016. She oversees the Fixed Income portfolio which includes investments in macro, credit, securitized products, convertibles, and cross-asset systematic investing. She joined GIC in 1998 and built her career in the Fixed Income department. She was responsible for the Emerging Markets and Foreign Exchange business from 2008 to 2010, headed up the Macro Research and Strategy team at its inception in 2011 and the Global Macro business from 2011 to 2016. She chairs GIC's Currency Risk Management Committee which is responsible for managing the currency exposure of the total portfolio and the Sustainability Committee which drives the integration of sustainability into GIC's investment and corporate processes. Ms Liew is a member of the Ministry of Defence SAVER-Premium Board of Trustees and the Central Provident Fund Board.

Ms Liew holds a Bachelor of Arts (First Class Honours) in Engineering and Master of Arts from the University of Cambridge, and a Master of Science in Engineering from Princeton University. She has completed the Advanced Management Program from INSEAD.

Choo Yong Cheen

*Chief Investment Officer,
Private Equity*



Choo Yong Cheen was appointed Chief Investment Officer for Private Equity in July 2016. He oversees the Private Equity portfolio, which includes investments in buyouts, minority growth, Pre-IPOs, venture capital, private credit and special situations. He joined GIC in 1996 and held various roles in the Economics and Strategy Department. Mr Choo transferred to the Equities Department in 2002, where he managed an Asia regional equities portfolio, specialising in China. He transferred to GIC Special Investments to run GIC's Private Equity business across Asia in 2011, before being posted to London in 2014 to run the European Private Equity business. Mr Choo is also currently the Head of GIC's China Business Group.

Mr Choo holds a Bachelor of Science (First Class Honours) and a Master of Science (with Distinction) in Econometrics and Mathematical Economics from the London School of Economics and Political Science. He has also completed the Senior Executive Programme from the London Business School.

Bryan Yeo

*Chief Investment Officer
Public Equities*



Bryan Yeo was appointed Chief Investment Officer for Public Equities in June 2016. He focuses on capital allocation, drives the aggregate equities portfolio construction and oversees the equities portfolio which invests across global developed markets and emerging markets. He joined the GIC Fixed Income Department as a portfolio manager in 2003 and rose to take on senior roles including Head of Credit Markets, Head of Fixed Income (Americas) based in New York, and Head of Credit Research and Strategy. He was based in GIC's London Office in the early part of his career.

Mr Yeo holds a Bachelor of Arts (First Class Honours) in Engineering from the University of Cambridge and a Master of Science in Financial Mathematics from the University of Chicago. He has completed the Stanford Executive Program from the Stanford University Graduate School of Business.

OUR PEOPLE, CULTURE, AND COMMUNITY

At GIC, people are our biggest investment. Preparing and equipping them to fulfil GIC's purpose – to secure Singapore's financial future – while enabling them to thrive in their careers is vital to our success. Our focus is anchored to GIC's mandate, PRIME values, and unwavering commitment to our people's well-being.

We are One GIC

We have over 1,900 employees across 46 nationalities, operating from our Singapore headquarters and ten offices in key financial centres: Beijing, London, Mumbai, New York, San Francisco, São Paulo, Seoul, Shanghai, Sydney, and Tokyo. Our newest office in Sydney began operations in 2022 to support the growth and management of GIC's portfolio in Oceania.

GICians – our employees – come from diverse backgrounds, work experiences, and academic disciplines. This diversity enables GIC to leverage global market insights, networks, and functional expertise to invest well for Singapore.

07

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- 06 Governance
- > 07 Our People, Culture, and Community

7.1

Culture

As Singapore's sovereign wealth fund, GIC's mandate is to preserve and enhance the international purchasing power of the reserves under our management over the long term. As we pursue our mission, we remain committed to our vision to be the leading global long-term investor. To achieve this, we are transforming our organisation's culture while remaining true to our values.

As Singapore's sovereign wealth fund, GIC's mandate is to preserve and enhance the international purchasing power of the reserves under our management over the long term.

Anchored to PRIME

Our **PRIME** values serve as our compass for how we make decisions, how we think, and how we act:

- **Prudence** – Use sound judgment to take appropriate and informed risks.
- **Respect** – Treat everyone with dignity and value the perspectives and work of others.
- **Integrity** – Be honest, ethical, and trustworthy. Do what's right.
- **Merit** – Reward both achievements and behaviours equitably.
- **Excellence** – Be ambitious and agile, while remaining anchored in GIC's purpose. Be the best version of ourselves.

We remain anchored to these values. They will continue to inform everything we do, and GICians are expected to live up to them.

Advancing with AAD

At the same time, we acknowledge that we need to keep up with the changing world. To continue delivering strong investment performance in an increasingly uncertain and complex environment, we need to evolve our mindsets.

To this end, we introduced a set of transformative cultural attributes – ambition, agility, and harnessing diversity – collectively known as AAD. The AAD attributes are the culmination of a review on culture and talent conducted in 2021, as part of a wider refresh of our long-term strategy.

These cultural attributes direct us to push the boundaries, work more nimbly, embrace new opportunities, and value different perspectives that will sustain high performance in a long-term investment organisation. They are included in 360° reviews for our leaders so that the right tone is set from the top.



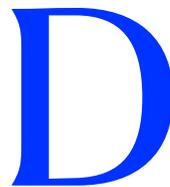
Ambition

- Raise our collective aspirations with courage.
- Push boundaries and pursue breakthrough ideas with conviction.



Agility

- Grasp changing realities and be ready to pivot promptly, away or toward.
- Take a whole-of-GIC perspective to solve problems across boundaries and cut through impediments to progress.



D Harnessing Diversity

- Seek out diverse and countervailing perspectives and prompt open and honest debate.
- Foster inclusion and psychological safety so that everyone can be at their best.

Diversity, Equity, and Inclusion

The way we work is founded deeply on respect for one another and with a clear sense of purpose. We believe an inclusive environment, which promotes respect and active contribution, yields exceptional performance. When diverse teams feel included, we build shared belonging to one another and to GIC.

Through diversity, equity, and inclusion (DE&I) efforts, we put our PRIME values into practice. We believe every individual brings with them unique diversity of thought to meaningfully enrich the perspectives of GIC teams and drive competitive performance. At the same time, we recognise that we must live up to the values of Respect and Merit by ensuring our people management policies are equitable and fair for all. With inclusive and enabling practices, we seek to instill a sense of belonging in our employees and support all GICians to contribute as their best selves.

Our DE&I policies emphasise:

Cultivating a Diverse Talent Pool

We are intentional in our efforts to improve gender balance in our organisation. We adopt best practices such as having diverse candidate slates and hiring panels and encouraging hiring managers to be mindful of unconscious bias through mandatory training. Last year, we also launched the GIC Women Leadership Programme to support and harness greater diversity in our leadership ranks. Under the programme, women in senior positions are given exposure, developmental, and networking opportunities with exemplary leaders from GIC and beyond, with the intention of strengthening their leadership capabilities.

In 2022, we partnered Yayasan Mendaki to launch the GIC-Mendaki Scholarship for Singaporean-Malay students to nurture interest and build competencies in the asset management industry and better engage different groups of talent in our local community. The GIC-Mendaki Scholarship programme

– which includes undergraduate tuition fee coverage, structured internships, job rotations, and mentorship – will see recipients embark on a purposeful career with GIC upon graduation.

To enable equal workplace opportunities for people with disabilities, our GIC Enable Programme offers internships to students with disabilities to provide meaningful career exposure and development. Since the programme was launched in 2019, seven students with disabilities have completed internships with us. GICians also volunteer as mentors in the RISE Mentorship Programme by SG Enable¹, where they coach students with disabilities on resume writing and interview skills. To date, we have contributed seven mentors to the programme.

In recognition of our efforts to promote inclusive employment for people with disabilities, we received the Enabling Mark (Silver) from SG Enable in 2021.

Our global offices also support efforts to enhance the diversity of our workforce. For example, our London office participates in Ten

Thousand Black Interns (TTBI) and Girls Are Investors (GAIN), offering internships and mentorships to Black university students and girls and sponsoring their programmes through corporate donations.

Building an Open and Equitable Workplace

We are committed to providing our employees an open and equitable workplace where people feel psychologically safe at work. Our Dignity at Work Policy sets clear expectations on conduct towards employees and external parties in work-related settings. Employees are expected to speak up if they encounter inappropriate behaviour. Under our Whistleblowing Policy and/or the respective global offices' employee handbooks, employees can also report incidents to the CEO, the Chairman of the Audit Committee, and/or the Human Resource & Organization Department.

We proactively conduct regular reviews of our internal processes and outcomes to mitigate any unconscious bias. For example, we conducted an in-depth analysis which showed that, after controlling for role as well as performance and

experience levels, salary increments and bonuses in GIC were not statistically different by gender.

Enabling GICians To Be at Their Best Through Inclusiveness

Recognising the different roles that our employees juggle – partner, parent, or caregiver, among others – and to support them and their families better, we enhanced our benefits in multiple areas, including increasing leave days for maternity, paternity, adoption, marriage, and caregiving. Exclusion clauses to pre-existing conditions and the age cap for children with disabilities have been removed in the dependent medical benefits. Mental health treatment costs are also covered under our medical benefits to emphasise different dimensions of well-being.

We also conducted a study on inclusive job descriptions to ensure GIC's job descriptions are worded in a consciously inclusive manner. It highlighted areas for improvement to ensure that every job description reflects the inclusive values and work environment we want to create at GIC.

¹ SG Enable is Singapore's government-backed agency dedicated to looking after the needs of the disabled.

7.2

Talent

Developing and caring for our people is vital to our success. By rewarding GICians fairly, looking after their well-being, imparting them with skills to do their jobs well, and developing them for the future, we create high-performing teams and individuals.

Global Leadership Group

Strong leadership is key to our continued success. The GIC Global Leadership Group comprises 68 of our most senior leaders with broad and deep experiences across asset classes, specialised functions, and geographies. Their responsibilities extend beyond their functional roles. They represent GIC at the global level to advance GIC's business interests, and there are high expectations of contribution from them in four areas of impact: business impact, people impact, enterprise impact, and future impact. They are also expected to be role models in upholding our values and culture. A select number of our Managing Directors are elected into the Global Leadership Group each year through a robust nomination process.

Key Leadership Movements

We engage in succession planning for renewal at the top levels to ensure we benefit from a steady leadership pipeline and fresh insights.

We bade farewell to our Chief Technology Officer, Ms Wu Choy Peng. We extend our heartfelt appreciation to

Ms Wu for her contributions to GIC. To continue our drive to leverage on technology and data, Mr Larry Beck, Mr Taran Khera, and Dr Rajesh Krishnamachari joined GIC to head our Technology Group, Data Strategy Group, and Investment Insights Group respectively. All three are part of the Global Leadership Group.

Our Compensation Principles

GIC's compensation policies and practices are governed by the Human Resource & Organization Committee, a committee of the GIC Board of Directors. Our framework is based on principles that enable us to attract and retain talent to meet our business needs in the markets and sectors we operate in. These principles include long-term orientation, performance accountability, and industry pay benchmarks. The compensation structure is tied to long-term portfolio performance and reinforces an informed risk-taking culture, along with the PRIME values. A portion of the remuneration for senior management staff is deferred and subject to clawback.

Developing Our People

We encourage continuous learning and a growth mindset in our people. Our supportive environment provides on-the-job opportunities for employees to strengthen their business knowledge, develop core skillsets, and grow their careers. This is complemented by GIC School – our dedicated learning and development academy – which provides tailored training, peer mentorship, and curated digital resources.

GIC School offers team development, resilience, and well-being programmes, encouraging our people to leverage their diversity of experiences and strengths.

New employees go through a customised onboarding programme, that provides support at key milestones, from dialogues with senior leaders, to self-paced digital courses on business fundamentals. Microlearning resources spanning a range of topics, including sustainability, digital tools, and data strategies, are also available to those interested.

Our Foundation Programme prepares employees at every stage of their career for the responsibilities and challenges of each level. It enables emerging and experienced leaders to take on wider enterprise responsibilities through strengths-based coaching and leadership programmes that amplify influence and resilience.

Key to GIC's long-term success is building effective teams. Our People Manager Programme helps managers develop mindsets and behaviours to create an open, collaborative, and respectful environment. This is complemented by our Effective Team Player Programme, which focuses on the roles of individual contributors in building meaningful relationships and contributing to a high-performing team climate. The Energy and Resilience for Performance Programme further strengthens overall team performance through science-based techniques that enable employees to perform at their best.

To support employees' longer-term career aspirations, our one-stop career portal offers resources for career exploration within GIC. Every employee is also allocated a training allowance to upskill through external courses. Employees who pursue postgraduate qualifications are supported through sponsorships and time off. From internal transfers and attachments to formalised study, our people have access to a myriad of opportunities to broaden their perspectives and skillsets.

Flexible Work Arrangements

We offer a hybrid work model to our employees as we recognise the benefits of flexible working at the individual level as well as the benefits of in-person interactions. We believe that the physical office should remain the hub of our business activities and interactions because it facilitates interactive learning and ideation, relationship- and team-building, and the growth of our culture. At the same time, we recognise that employees value the flexibility to work from home, and remote working has proven to sustain high productivity levels. Given the global profile of our employees, we also allow individuals to work outside of their primary employment location for a few weeks a year. It maximises the time they spend connecting with family and friends, while leveraging on technology to work remotely.

We offer a hybrid work model to our employees, as we recognise the benefits of flexible working at the individual level as well as the benefits of in-person interactions.

7.3

Building Confident Communities to Create Greater Impact

At GIC, our social impact efforts champion education to help build capacity within individuals to become confident leaders who actively contribute to the community. Through education, we believe we can spark a multiplier effect on various facets of our society, including economic security, collective well-being, and environmental sustainability, which in turn creates long-term impact.

Across our global offices, we establish meaningful partnerships with non-profits to collaborate on community initiatives, support research on long-term issues, and contribute to humanitarian efforts.

Enabling Employee Volunteering Through With Love, GIC

Despite the challenges posed by pandemic restrictions, our employees have continued to find ways to volunteer and give back to the disadvantaged and underserved communities in their locations. Launched in 2020, the initiative has supported more than 130 ground-up projects across our 10 offices to deliver impact to more than 23,000 beneficiaries across the globe. These projects are employee-led and co-created directly with community partners so that our employees can contribute based on their

Gift A Tree – Preserving Our Environment, for Future Generations

As part of our 40th Anniversary, employees from all our offices were involved in the Gift A Tree initiative, which sought to reinforce GIC's commitment to our mandate of preserving and growing our reserves for our future generations and to focus on environmental sustainability. The enterprise-led initiative saw employees participate actively in the tree-planting process alongside local community partners in the cities where our offices are located.

More than 3,000 trees were planted under the Gift A Tree initiative, exceeding the initial target of getting every employee to plant a tree. Fundraisers were also organised by employees, with GIC matching staff donations to raise and donate over S\$200,000 to support the same local community partners in their awareness and conservation efforts.

Despite the challenges posed by pandemic restrictions, our employees have continued to find ways to volunteer and give back to the disadvantaged and underserved communities in their locations.

skills, passions, and interests to deliver impact where it is needed the most.

Coupled with GIC's two-day volunteer leave policy, With Love, GIC has helped anchor a culture of employee volunteering and giving within GIC and allowed us to expand our collaboration with community partners directly through our employees to spark a positive multiplier effect in the communities where we work and live.

Nurturing Confident Community Leaders of Tomorrow

GIC's community programmes are co-developed with educational institutions and community partners in Singapore to inculcate lifelong skills and mindsets amongst students from secondary to tertiary levels, individuals with special needs, youth, and small-to-medium enterprise (SME) executives.

GIC Sparks & Smiles ("GIC Sparks")

Launched in 2015, the GIC Sparks & Smiles programme has empowered more than 890 Singaporean youth from high-needs households to become community leaders. GIC Sparks awardees receive a study grant and undergo a leadership programme and vocational training with experienced social service practitioners and GIC senior leaders before they go on to volunteer their skills and services in the community.

In 2021, GIC established new partnerships with Engineering Good and GreenSproutz to provide students

with more skill-based volunteering options. This is in addition to those provided by our long-standing partners Beyond Social Services and ART:DIS. Our community partners were agile and found meaningful ways to allow students to contribute remotely, despite the challenges faced in gathering them to volunteer in-person.

Read more about our flagship leadership programme [here](#).

<p>The Purple Symphony: Training Award Programme</p>	<p>Since 2016, GIC has funded 113 grants under The Purple Symphony (TPS) Training Award Programme, supporting persons with disabilities to gain equal access to music lessons and performing opportunities. Our close partnership with TPS is founded on shared values to build an inclusive community for persons with and without disabilities.</p> <p>To commemorate GIC's 40th Anniversary, the TPS ensemble was commissioned to perform a special cover of 'The Road Ahead', Singapore's national day theme song for 2021.</p>	<p>Through our partnership with TPS, GIC is also a strong corporate supporter of The Purple Parade, Singapore's largest unifying national platform to promote awareness and celebrate abilities of the disabled. In 2021, GIC organised a webinar in support of The Purple Parade for employees to better understand what it takes to create a more inclusive society. The panel featured distinguished speakers including gold medallist Paralympic swimmer and former Nominated Member of Parliament Yip Pin Xiu.</p> <p>Read more about the key insights from the webinar on ThinkSpace. You may also find out more about our partnership with TPS here.</p>
<p>GIC Computing for the Community Fellowship Award</p>	<p>The GIC Computing for the Community Fellowship Award is given out to students participating in the National University of Singapore (NUS) Computing for Voluntary Welfare Organisations (CVWO) attachment programme every summer.</p> <p>Now subsumed under the newly launched Centre for Computing for Social Good and Philanthropy (CCSGP) under the NUS School of Computing, the programme has</p>	<p>become a mainstay that will continue to develop and inspire new and passionate community leaders who will lead the way towards a digitally inclusive society.</p> <p>Since the start of the partnership in 2017, GIC has supported the programme to grow its intake to 32 students annually. Find out more about our partnership with NUS CVWO here.</p>
<p>Financial Literacy Programmes</p>	<p>Financial literacy has increasingly become a key focus for our community engagement as we strive to impart GIC's principles to youth and professionals in Singapore.</p> <p>We collaborate with educational institutions to engage students through Safehouse and GIC's Learning Journey. These programmes are designed to be experiential so participants can apply GIC's key investing principles to real-world situations.</p>	<p>We also expanded our financial literacy outreach to business leaders and young professionals through a collaboration with the Singapore Business Federation and National Youth Council. Co-designed with Our Common Ground (OCG), GIC's Investing Principles Curriculum is an online learning programme that is centred around our five core investing principles and is fully funded by GIC.</p> <p>Learn more about our financial literacy programmes here.</p>

GIC-MOE Partnership

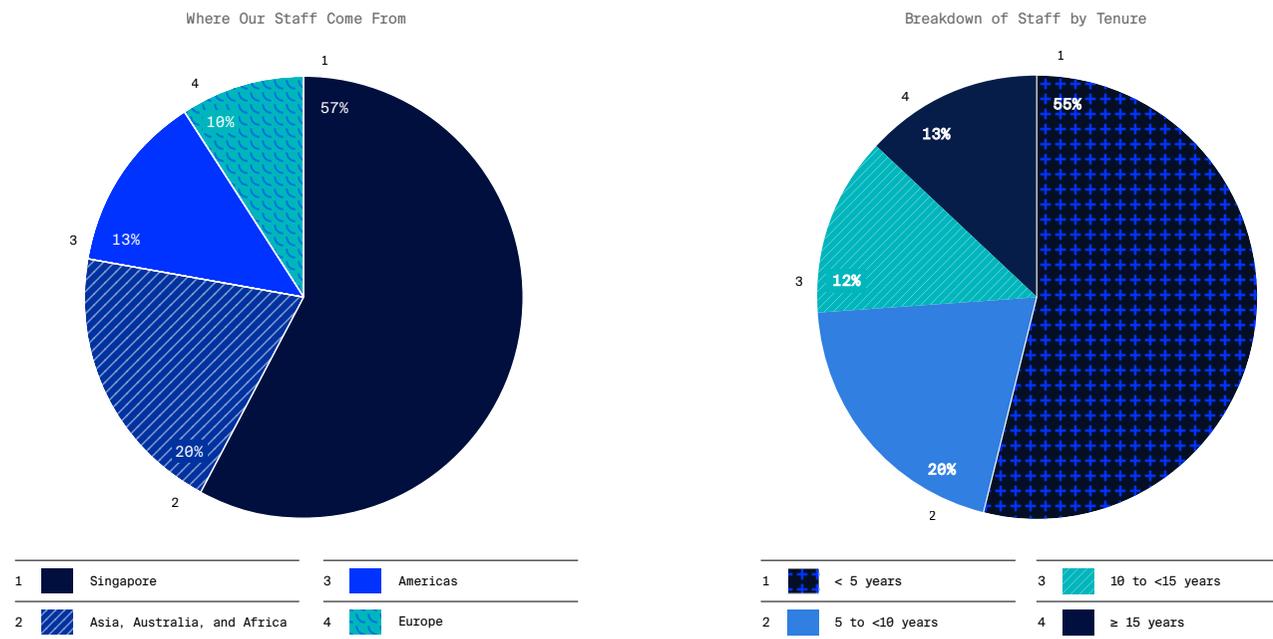
To prepare Singaporean students to thrive in an increasingly complex, ambiguous, and rapidly changing future, GIC School collaborates with the Ministry of Education, Singapore (“MOE”) on initiatives for the national school curriculum to develop future-ready young Singaporeans.

Leveraging our core expertise as a global investor, the GIC-MOE Partnership produces educational resources and financial literacy programmes with real-world applications, covering core concepts in personal finance

and reserves management, the global economy and long-term trends, and the future of work in investment management. This supports the national effort to develop a Singaporean core in our financial services industry. The programmes are delivered through student seminars, workshops, and teaching packages. Digital resources are also available on the MOE Student Learning Space and FutureReady-GIC Microsite.

GIC’s raison d’être is securing Singapore’s financial future. We can only fulfil this purpose if we have the best people working for us. We continually nurture talent, ensuring the company remains in capable hands. Another key tenet of our culture is to do right by the communities we operate in through our social impact initiatives; we want our employees to have the heart for serving the public good. With all these elements, we are confident in our ability to deliver superior investment returns and to be the leading global long-term investor.

Figure 1. Our Employee Demographics



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