



Report on the
Management of the
**Government's
Portfolio**

2019/20

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1.1 Letter from the Chief Executive Officer

Dear Stakeholders,

These are extraordinary times. We are at the confluence of a public health, economic, and financial crisis. We have seen extraordinary developments and swift responses, including drastic mobility restrictions, draconian public health measures, record fiscal and monetary stimulus, urgent steps by businesses to conserve cash, and wild financial market movements.

Navigating the turbulent environment with caution and resilience

Despite the turbulence, GIC's portfolio performance has remained resilient. This year, the 20-year annualised USD nominal return of our portfolio was 4.6%. Adjusting for global inflation, the annualised 20-year real return was 2.7%, down from 3.4% last year. The reduction was largely due to the dropping out of a very strong tech-bubble year return 21 years ago, rather than the recent market moves.

The COVID-19 pandemic was unforeseen, but it catalysed this global recession. It has accentuated vulnerabilities in the investment environment we had highlighted before, including high asset prices, weakening fundamentals, limited policy room, and growing geopolitical uncertainties.

Lim Chow Kiat
Chief Executive Officer, GIC



The COVID-19 pandemic was unforeseen, but it catalysed this global recession. It has accentuated vulnerabilities in the investment environment highlighted in our past annual reports. Prior to this crisis, GIC had concerns over high asset prices, weakening fundamentals, limited policy room, and growing geopolitical uncertainties. These conditions could have significantly and permanently impaired our portfolio. Fortunately, we had preemptively de-risked by reducing our allocation to equities in favour of cash, and evaluating investment transactions with more caution.

We now stand poised to invest and seize opportunities that can enhance our long-term returns.

This defensive position has helped cushion our portfolio from the worst of the volatility¹ in the financial markets in the first quarter of 2020. GIC's portfolio returns have consistently been less volatile than our risk reference portfolio whilst providing a creditable, sustained

long-term real return. This has been the case particularly over the last five years. We now stand poised to invest and seize opportunities that can enhance our long-term returns.

Our role as custodian of the nation's reserves

In these difficult times, we are even more mindful that the reserves entrusted to GIC are a key resource for Singapore. This year, with Singapore expected to experience a deep recession², the Government rolled out four relief packages totalling S\$93 billion to support households, workers, and businesses. This required an extraordinary draw of S\$52 billion from past reserves, in addition to the annual Net Investment Returns Contribution (NIRC)³, estimated at S\$18 billion for FY2020. Before this, Singapore has only drawn on past reserves once, for the 2008 Global Financial Crisis (GFC). The S\$52 billion expected to be drawn this year is more than ten times the amount that was last drawn for the GFC.

Singapore's ability to tap its national reserves in times of crisis is a significant strategic advantage. This avoids burdening future generations

of Singaporeans with large public debt, and is an important buffer for a country with no natural resources. It is also possible only because of the foresight of our founding fathers and consistent prudence on the part of our government and people. The draw on reserves can only be taken in extraordinary circumstances by the government with the approval of the Elected President.

COVID-19 will not be the last crisis that Singapore faces. Looking ahead, with growing societal needs and climate change adaptation measures adding to the country's expenditure, our reserves will continue to be a vital revenue source for the government through the NIRC. GIC must continue to protect and enhance the reserves under our management.

Facing a changing global investment environment

The global investment outlook, with the wide range of potential outcomes and downside risks, has become even more challenging. In addition to the pandemic unknowns, such as the possibility of subsequent waves of infection, other pre-existing problems have been accentuated. These include

² Source: [Ministry of Trade and Industry, Government of Singapore](#)

³ The NIRC comprises up to 50% of the net investment return from the reserves under management by GIC, Monetary Authority of Singapore and Temasek, and up to 50% of the net investment income derived from past reserves from the remaining assets. It is the single largest revenue source for the Government.

¹ The global equity markets fell by over 20% in 1Q 2020, its worst quarterly performance since the GFC. Source: [MSCI World Index](#).

fundamental issues such as poor productivity growth, weakened social compacts, high debt burden, and rising geopolitical tensions.

The pandemic has accelerated several shifts that could shape the investment landscape.

First, uncharted policymaking. Governments and central banks are resorting to unconventional policies of large magnitudes to support their economies. With global interest rates at 140-year lows, growing political divides, and corporate and public debt levels set to climb even higher, it will be very difficult to calibrate or withdraw these massive stimulus measures as the economy recovers. This introduces policy risks for inflation and currencies that investors have not had to contend with in recent history.

Second, headwinds to globalisation. The commitment of major countries to globalisation has diminished. The COVID-19 crisis has also sped up the push to diversify or re-shore supply chains, increase domestic production of certain essential goods, and adopt technology such as advanced robotics, additive manufacturing, and

We are likely to see a reconfiguration of Asian economies' links to the world. Over the long term, intraregional trade should strengthen in Asia.

content digitalisation. Modularisation and duplication of supply chains will become more widespread. To further protect domestic interests, governments could also tighten restrictions on foreign labour and capital. A major retreat from globalisation is likely to hurt global productivity growth and be particularly detrimental to emerging markets that have historically relied on foreign investments and export-led growth.

In particular, we are likely to see a reconfiguration of Asian economies' links to the world. The pandemic has added pressure to the already strained US-China relations. Potentially tighter restrictions on China with regard to trade, technology, and capital will affect the rest of Asia. However, certain markets, given their lower production costs, comprehensive supplier ecosystems or large domestic markets, could also benefit from the

diversification of global supply chains away from China. Over the long term, intraregional trade should still strengthen in Asia, as companies seek to produce where most of the world's consumers are⁴.

Third, governance will matter more. With the global recession, public health challenges and geopolitical tensions, the preparedness and responsiveness of governments, countries' relevance to global supply chains, and their ability to retain the trust of their populations will be key drivers of their performance.

Fourth, industry consolidation will be catalysed. COVID-19 has drastically weakened the finances of many companies, particularly small- to medium-sized ones. Given the depth and duration of this crisis, many will not survive while others will require additional funding, seek alliances or be acquired. Companies with stronger

4
It is estimated that 40% of global consumption will take place in Asia by 2040.
Source: [Asia's Future Is Now Report, McKinsey \(July 2019\)](#)

balance sheets and technological edge are likely to become bigger and stronger.

Adding to the profound uncertainty is the challenge of high valuations. Recent policy stimulus has lifted asset prices to levels where investors risk overpaying and suffering permanent impairment. Given our mandate, the first order of business is to reduce this risk by keeping a cautious stance on the broad markets. At the same time, with structural shifts and likely episodic market volatility, we are prepared to deploy capital into individual opportunities. You can read more on this in our Feature Article, “A Changing Global Investment Environment”.

Focusing on our values and strengths

Amidst the uncertainty, we should maintain our focus on our mandate, values, risk capacity, capabilities, and constraints.

We continue to follow the principle, “Prepare, not Predict” and emphasise portfolio diversification and, where appropriate, optionality. We should maintain a long-term perspective.

This means emphasising fundamental trends over market sentiments, value over price, and partnerships over transactions.

Lastly, we reaffirm our focus on sustainability. We believe climate change and other sustainability risks will greatly affect the physical environment and capital markets, which in turn will influence the long-term value of our investments. Therefore, sustainability is an essential part of our investment strategy, risk management, and corporate culture and processes. We are focused on supporting “transition”, where businesses are taking actions to improve sustainability. We share more on our sustainability approach in the “Managing the Portfolio” section.

Building a strong and resilient organization

Organizational resilience is fundamental to GIC’s investment mandate and purpose, and enables us to sustain performance, particularly through times of crisis. Our resilience was tested during the COVID-19 pandemic, which not only posed risk to the health and safety of our staff, but also curtailed GIC’s office

operations across the world. GIC’s Business Continuity Programme includes a detailed response plan for infectious disease outbreak, which was adapted and improved from our experience in SARS. This, together with our continuous investment in technological solutions, allowed us to respond to the COVID-19 pandemic effectively, including the rapid roll-out of safety measures and large-scale telecommuting.

Amidst the uncertainty, we should maintain our focus on our mandate, values, risk capacity, capabilities, and constraints.

This year, we appointed Mr Choo Yong Cheen, Ms Liew Tzu Mi, and Mr Bryan Yeo to our Group Executive Committee (GEC), where they took on formal responsibilities at the enterprise level, whilst remaining as the Chief Investment Officers for Private Equity, Fixed Income, and Public Equities respectively. We also congratulate Mr Jin Yuen Yee who succeeded Dr Chia Tai Tee as GIC’s Chief Risk Officer and a member

of the GEC. Having these four new GEC members is part of our ongoing process to ensure a strong bench of current and future leaders for GIC.

I would like to express my deep gratitude to Tai Tee for his many years of service and contributions to GIC. His strong emphasis on taking risks that are compensated, informed, and authorised has strengthened our risk culture, and enabled careful expansion and innovation into new investment areas.

Externally, we continue to build on our engagement efforts not only with our partners, but also the local communities.

Externally, we continue to build on our engagement efforts not only with our partners, but also the local communities. For example, *GIC Sparks and Smiles*, our leadership and community engagement programme for students from disadvantaged households, turns five this year. Since its launch, over 650 students have volunteered some 17,000 hours to mentor children and youth. I am heartened that many have gone

on to serve the community after graduating from the programme. This year, we also started *GIC X Change*, a mentorship and volunteering scheme which matches GICians and youths to jointly develop community service projects for long-term impact.

More recently, in response to COVID-19, GIC embarked on a dollar-for-dollar matching donation drive, supported numerous ground-up community projects led by our staff, and contributed funds to relief efforts

in Asia, the US, and Europe. As the manager of Singapore's reserves, GIC wants to do our part to help vulnerable communities.

I would also like to convey my deep appreciation to our staff across our global offices. Their resilience and dedication have enabled GIC to deliver sustained long-term real returns and manage the considerable disruption in our operations. They have gone

to great lengths to safeguard our portfolio and support one another, despite a highly stressful work and living situation. Likewise, I wish to thank our Board and partners for their continued support and trust during these difficult times.

Being prepared

We have been preparing for a challenging investment environment for some time and our defensive position has helped in navigating the current turmoil. We remain vigilant, guided by our mandate, values, and investment principles. We are ready to face an uncharted future, and will continue to invest the nation's foreign reserves prudently.



Lim Chow Kiat
Chief Executive Officer, GIC

Welcome



Mr Glenn Hutchins was appointed to our International Advisory Board on 1 April 2020.

He is concurrently an advisor to the Investment Strategies Committee and a member of the Investment Board.

Mr Hutchins is Chairman of North Island and co-founder of Silver Lake.

Thank You



It has been our privilege to have benefitted from the experience and expertise of **Mr David Denison**, who stepped down in April 2020 after seven years of service on the GIC Investment Strategies Committee and Investment Board.

Senior Leadership Appointments and Renewals

On 1 April 2020, we welcomed four new appointments to the Group Executive Committee:

Mr Jin Yuen Yee,
who assumed the role of Chief Risk Officer

Mr Choo Yong Cheen,
who continues to serve as Chief Investment Officer for Private Equity

Ms Liew Tzu Mi,
who continues to serve as Chief Investment Officer for Fixed Income

Mr Bryan Yeo,
who continues to serve as Chief Investment Officer for Public Equities

For years of dedicated service, we thank:

Dr Chia Tai Tee,
who retired as Chief Risk Officer

1.2

The GIC Primer

Our mission is to preserve and enhance the long-term international purchasing power of the reserves placed under our management. People and talent are central to what we can do. We believe that the results we seek are best achieved through a culture founded on our five PRIME values of Prudence, Respect, Integrity, Merit, and Excellence.

P **PRUDENCE** We exercise prudence and sound judgement, and take a considered approach to managing risks as we seek to deliver good investment returns, always conscious of our overriding fiduciary responsibility.

As an institution and as individuals, we conduct ourselves with good sense and circumspection, even as we take the best advantage of our large asset base, global presence, multi-asset approach, and long-term orientation.

R **RESPECT** All of us are united in a common endeavour, regardless of who we are, where we work or what we do. We respect people as individuals, care for their well-being, and welcome diversity in capability and background. We do not tolerate any

behaviour that works against the interest of our Client or of GIC. We stress teamwork within and across departments, and with our Client and business partners. We expect everyone to be free, candid, and constructive in their comments and suggestions, and always seek to help our colleagues and GIC do better.

I **INTEGRITY** Everything we do is founded on integrity. We expect the highest standards of honesty from everyone in GIC, both in our work and in our personal lives. This includes abiding

by the laws of the countries we invest in, and observing our code of ethics in letter and in spirit. We must never jeopardise the trust others have in us and in our reputation for professionalism.

M **MERIT** We recruit and develop our people solely on merit. We draw our talent from around the world and provide challenging and meaningful work. We grant recognition and reward based on performance and conduct consistent with our PRIME values. We develop

our people to achieve their potential so that we may also perform to our potential. We select business partners based on their capability. We believe in long-term relationships built upon high levels of performance and quality of service.

E **EXCELLENCE** We are relentless in our pursuit of excellence. In all that we do, we strive to be the best that we can be. This demands that we plan and anticipate well, so that we will always be in time for the future, fully able to take up the challenges and opportunities that come,

pursuing improvements where they may be found, and economies where these may be gained. We expect everyone to do their best in every situation. We harness the creativity and imagination of our people and our business partners for superior results.

2 Investment Report

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

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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, that is, to achieve good long-term returns over global inflation. This is represented by the primary metric for evaluating GIC's investment performance - the rolling 20-year real rate of return.

This year, the 20-year annualised real return (i.e. the return above global inflation) fell to 2.7%, largely due to a very strong tech-bubble year return in FY1999/2000 dropping out of this 20-year window, and to a lesser extent, the drawdown of global markets over the last year (see next page).

In recent years, we have been concerned about high uncertainty and

high valuations, which could result in large permanent portfolio impairment. The first order of business was to reduce our exposures to such a risk. While we had not expected a pandemic to be the catalyst for this global downturn, our efforts to diversify and reduce our portfolio risk have enabled us to cushion its impact and better navigate the market turmoil brought on by COVID-19. We describe this approach in this section.

Figure 1: Annualised rolling 20-year real rate of return of the GIC Portfolio since 2001



Understanding the Rolling 20-Year Return

GIC reports its performance as an annualised 20-year real return, which is the average time-weighted portfolio return over that period. A time-weighted return helps to eliminate the distorting effects on growth rates created by inflows and outflows of money to and from the portfolio.

The return figure is a rolling return, which means that last year's 20-year return spans the period 2000 to 2019, this year's 20-year return spans 2001 to 2020, and next year's return will span 2002 to 2021. For each new year added, the earliest year drops out of the measurement window. The change in this rolling return figure is therefore determined by the returns from the earliest year that drops out and the latest year that is added.

Figure 2: Illustration of a portfolio's rolling 20-year return



Over the long term, GIC's performance is largely driven by the dynamics of the global economy and our Policy Portfolio, which reflects our asset allocation strategy. Skill-based active strategies undertaken by our investment teams seek to add returns above market benchmarks. We strive to achieve the best possible 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 on "Managing the Portfolio".

diversified portfolio approach, and in particular, our cautious stance in recent years. As highlighted in past reports¹, GIC had grown increasingly concerned about high asset valuations and high uncertainty, and had therefore reduced our portfolio risk.

Over the long term, GIC's performance is largely driven by the dynamics of the global economy and our Policy Portfolio, which reflects our asset allocation strategy.

In the first quarter of 2020, the global equity markets fell sharply as economic growth plunged, following severe disruptions from the COVID-19 outbreak. However, the impact on GIC's portfolio was cushioned by our

¹ GIC's past reports are available here: www.gic.com.sg/reports/

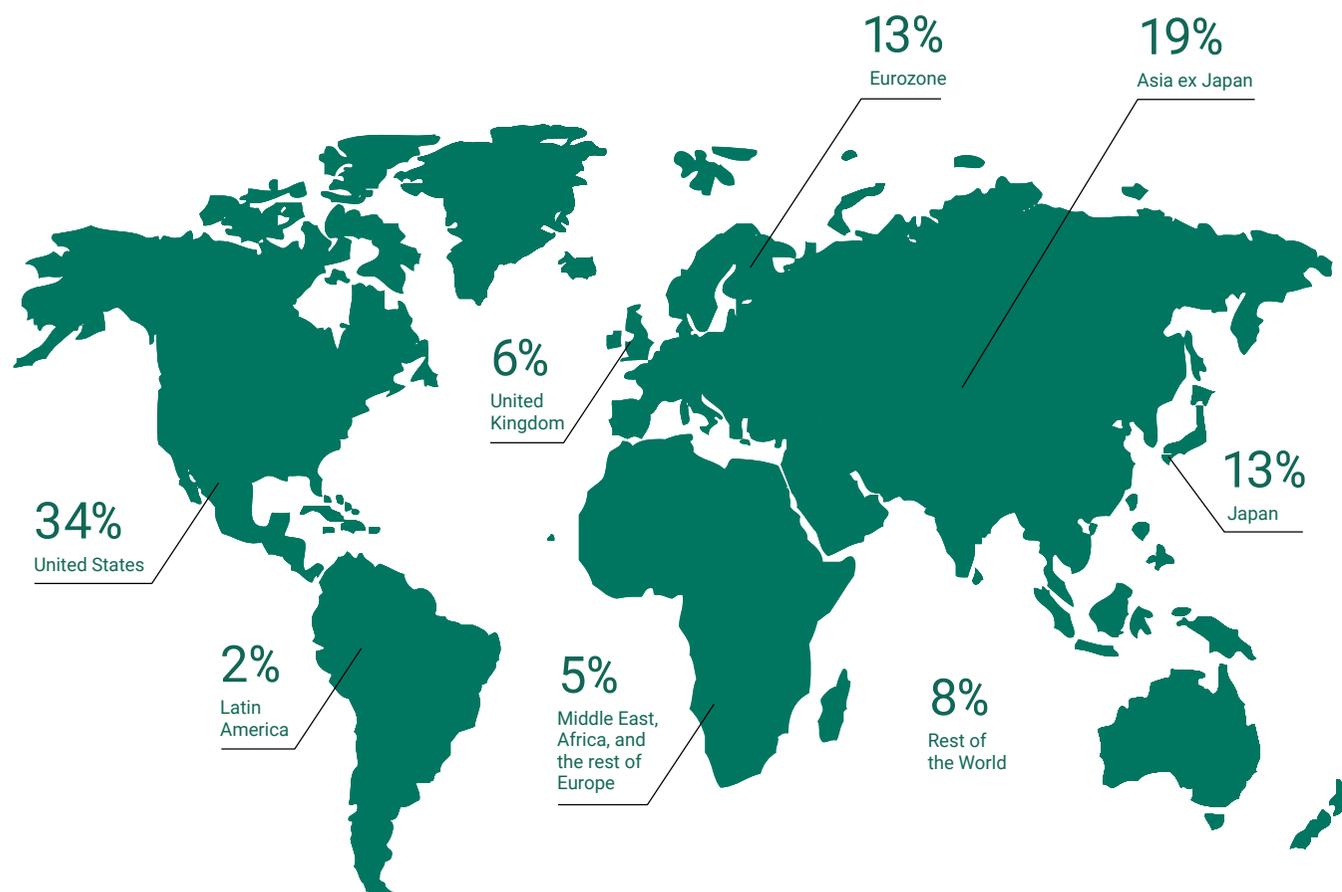
2.2 The GIC Portfolio

In line with the decline in equity markets, the proportion of developed and emerging market public equities in the GIC Portfolio fell, while private asset allocation grew as a percentage of the portfolio. The share of bonds and cash rose as these lower risk assets benefitted from the flight to safety. There was little change in terms of geographical mix. Table 1 and Figure 3 show the asset mix and geographical distribution of the GIC Portfolio as of 31 March 2020.

Table 1: Asset mix of the GIC Portfolio

Asset Mix	31 March 2020 (%)	31 March 2019 (%)
Developed Market Equities	15	19
Emerging Market Equities	15	18
Nominal Bonds and Cash	44	39
Inflation-linked Bonds	6	5
Real Estate	7	7
Private Equity	13	12
Total	100	100

Figure 3: Geographical distribution of the GIC Portfolio



GIC's Portfolio Mix

The GIC Portfolio comprises a well-diversified portfolio, with each asset class having a different risk-return profile. For example, growth assets such as public and private equities generate higher returns but are riskier. Defensive assets such as sovereign bonds offer lower returns but have lower risk and protect the portfolio in market downturns. Real estate and infrastructure offer stable, long-term, income-oriented returns, but have higher illiquidity risks than public equities and bonds.

The GIC Portfolio is constructed to be resilient across a broad range of possible market and economic conditions, while generating positive long-term real returns. Asset allocation is our primary focus in portfolio construction. While we do not allocate our assets by country or regions, we monitor our exposures to ensure adequate risk diversification across them. The geographical distribution of the GIC Portfolio mainly reflects the global market composition and bottom-up opportunities sourced by our investment teams worldwide.

2.3 Intermediate Markers of Investment Performance

While the GIC Portfolio is constructed to deliver good 20-year returns above global inflation as its primary metric, we monitor its ongoing investment performance over intermediate periods. Table 2 shows the **nominal** (not adjusted for inflation) USD returns over 10 years and 5 years and the corresponding portfolio volatility. We include 20-year nominal numbers for completeness here².

The GIC Portfolio return over the 20-year period was 4.6% per annum in nominal USD terms. Over the 10-year period, the GIC Portfolio returned 5.2% per annum, as it included the prolonged upturn in the capital markets after the 2008 Global Financial Crisis. Over the 5-year period, the GIC Portfolio return slowed to 3.9%, in line with the broader asset markets.

Table 2: **Nominal annualised return and volatility of the GIC Portfolio (in USD, for periods ending 31 March 2020)**

GIC Portfolio		
Time Period	Nominal Return ³	Volatility ⁴
20-Year	4.6%	9.0%
10-Year	5.2%	8.0%
5-Year	3.9%	7.0%

² GIC's primary metric is the rolling 20-year real rate of return, which we described earlier in this chapter.

³ 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.

⁴ 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 bonds⁵. Table 3 shows the **nominal USD returns** over 20 years, 10 years, and five years, and the corresponding volatility for the Reference Portfolio⁶.

The Reference Portfolio is not a performance benchmark for the GIC Portfolio but characterises the risk the Client is prepared for GIC to take in generating good long-term investment returns. GIC may occasionally reduce risk exposure in times of market exuberance

and take on more risk when the opportunity arises. This is part of a disciplined approach to long-term value investing. For example, given weakening fundamentals and rising market uncertainty, GIC reduced our public equities and credit positions that appeared overpriced in the lead-up to 2020. In addition, we exercised greater caution when evaluating our investment transactions.

Over the 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. Despite this lower risk exposure than the Reference Portfolio, the GIC Portfolio has performed creditably over a 20-year period. This reflects our investment approach to first preserve and then enhance the value of the assets under our management over the long term.

Table 3: **Nominal annualised return and volatility of the Reference Portfolio (in USD, for periods ending 31 March 2020)**

Reference Portfolio		
Time Period	Nominal Return ⁷	Volatility ⁸
20-Year	4.2%	10.8%
10-Year	5.2%	9.8%
5-Year	3.3%	9.4%

⁵ 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. For more details, please refer to the chapter on "Managing the Portfolio".

⁶ The figures exclude adjustments for costs that would be incurred when investing.

⁷ The Reference Portfolio rates of return are provided on a gross basis, i.e. without adjustment for costs and fees.

⁸ Volatility is computed using the standard deviation of the monthly returns of the Reference Portfolio over the specified time horizon.

Investing in Private Markets

Given our long-term and flexible investment mandate, GIC was among the earliest institutional investors to invest in private markets, starting with real estate and private equity from the mid-1980s. Today, GIC is one of the largest institutional investors in private markets globally.

Private market investing is important to GIC as it provides portfolio diversification benefits and access to opportunities not available via public markets, particularly in emerging markets. Additionally, in some situations, we can make more meaningful contributions to the investee company by having tighter governance

Given our long-term and flexible investment mandate, GIC was among the earliest institutional investors to invest in private markets.

and influence over its management, strategy, and operations. We can better achieve this through a private ownership model, which enables us to leverage our competitive advantages, specifically

our long investment horizon, global presence, an extensive network of partners, as well as skilled and experienced teams.

Given the lower beta returns outlook and rising uncertainty in recent years, GIC has been working hard to find attractive alpha-generating opportunities, whilst increasing the overall resilience of the portfolio. Alpha is the additional return achieved by active strategies as compared to the Policy Portfolio, while beta comprises market returns.

This is reflected in our investment approach for the private markets:

Resilient incomes:

We have been investing in defensive sectors such as rental and manufactured housing, logistics and data centres, utilities and transport-based

infrastructure and services, as well as in companies with long-term contracted incomes.

Long-term themes:

Given the growth of e-commerce and rapid technological progress, we have been acquiring logistics and data centre assets, as well as equity stakes in FinTech, health-tech and enterprise software companies. In infrastructure, we have invested in sustainability themes such as renewable energy.

Risk management:

We target investments with good risk-reward ratios and impose conservative underwriting standards and scenario stress-testing. Our active portfolio management approach includes monitoring and reporting capabilities at the asset and portfolio level.

Long-term partnerships:

Having a strong global network of contacts and partnerships gives us valuable access to investment opportunities and market insights. We continue to find ways to add value to our partners and investee companies. Given our stable capital, we seek to position GIC as a partner of choice when market dislocations occur.

Navigating a Profoundly Uncertain Investment Environment

In recent years, GIC has taken an increasingly cautious macro stance with our investment portfolio. We observed elevated valuations at a time of weakening market fundamentals and high uncertainties. This was compounded by concerns over geopolitical tensions and limited policy room to manage an economic downturn.

These existing vulnerabilities worsened with the COVID-19 outbreak, which resulted in drastic containment measures and a sharp decline in global demand and economic growth. As set out in Figure 4, equity market volatility rose to levels not seen since the GFC, with the global equity market index falling by over 20% in 1Q 2020. Despite

the recent downturn, US equity markets are still trading at levels well above their pre-GFC peaks due to the prolonged run-up over the last 12 years.

The repercussions from the COVID-19 pandemic will be wide-ranging. How this plays out across the markets depends crucially on three key factors:

Figure 4: MSCI AC World Total Return Index in USD vs volatility



the progression of the outbreak and effectiveness of containment efforts; the spillover of the impact from the more vulnerable sectors such as travel, trade, and energy to other sectors; and macro policy responses to stabilise the markets, support economic activity, and keep supply chains open. Already we have seen cuts in interest rates and the swift roll-out of record fiscal packages globally, as governments seek to cushion the impact of the extreme containment measures on businesses and livelihoods.

The timing and shape of the economic recovery remain highly uncertain, especially because there may be subsequent waves of infection around the world. The pandemic has also amplified many existing fundamental issues, such as weakened social compacts, heightened geopolitical tensions, and rising debt levels. As these challenges are likely to be protracted, we can expect more market turmoil ahead.

GIC's experiences in managing past crises, diversified and disciplined portfolio approach, and long-term perspective on our investments, strategy, and partnerships, leave us better placed to navigate this difficult and volatile investment environment.

GIC has been preparing the portfolio for a period of heightened uncertainty. Lessons learned from previous crises such as the GFC, SARS and the dotcom bust have strengthened our investment processes and sharpened our thinking. This, together with our defensive portfolio positioning, leave us well placed to invest in market corrections and opportunities that can enhance our long-term returns.

Importance of our investment principles: 'Prepare, not Predict' and 'Focus on the Long Term'

Amidst this profound uncertainty, what keeps GIC anchored is having a keen understanding about who we are, including our mandate, values, risk capacity, capabilities, and constraints. This in turn drives our two key investment principles - *Prepare, not Predict*, and *Focus on the Long Term*.

Prepare, not Predict

This reflects our focus on diversification and robust asset allocation, so that our portfolio remains resilient across a broad range of scenarios. Given the uncharted outlook, having the humility to recognise our own biases and keeping an open and learning mindset are key.

Focus on the Long Term

This principle is essential to our mandate and investment approach. It reflects our emphasis on long-term value and fundamentals over market sentiments. Having a stable source of capital is a significant advantage as it allows us to target durable trends and attractive market entry points as asset prices correct. We also continue to build on our long-term partnerships and capabilities to provide flexible capital.

GIC's view is that the COVID-19 crisis will bring fundamental changes and even more uncertainty to the global

investment environment. A major retreat from globalisation due to heightened geopolitical tensions, supply chain shifts and nationalistic policies, is likely to hurt global productivity growth over the longer term. It will also affect emerging markets that have historically relied on foreign investments and export-led growth. However, Asian economies are likely to adapt their growth strategies and business models over time, and intra-regional trade will strengthen. How well governments respond to the health, economic, and financial challenges will be key drivers of their country's recovery.

Notwithstanding these challenges, GIC believes that our experiences in managing past crises, diversified and disciplined portfolio approach, and long-term perspective on our investments, strategy, and partnerships, leave us better placed to navigate this difficult and volatile investment environment. As the custodian of Singapore's reserves, we will continue to focus on our mandate to protect and enhance the value of the reserves under our management and work hard to secure Singapore's financial future.

3 Managing the Portfolio

GIC's investment strategy is to build a portfolio comprising asset classes that generate 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

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.

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

GIC's investment framework



3.2 Building the Portfolio

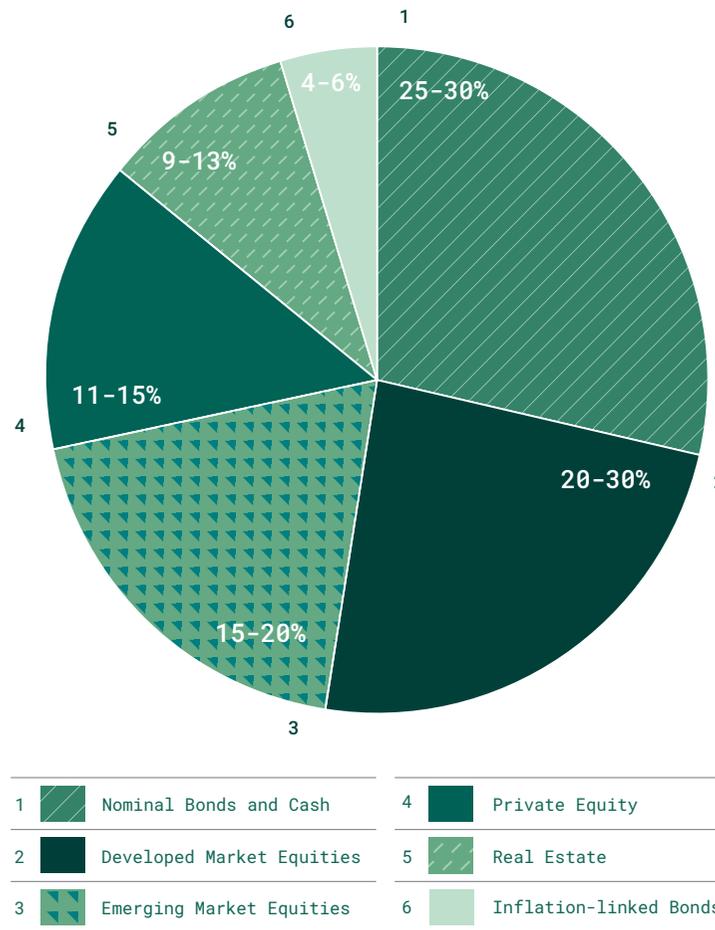
The Client owns the funds that GIC manages, and decides on the overall risk that the GIC Portfolio can take in pursuit of good long-term returns.

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.

Policy Portfolio



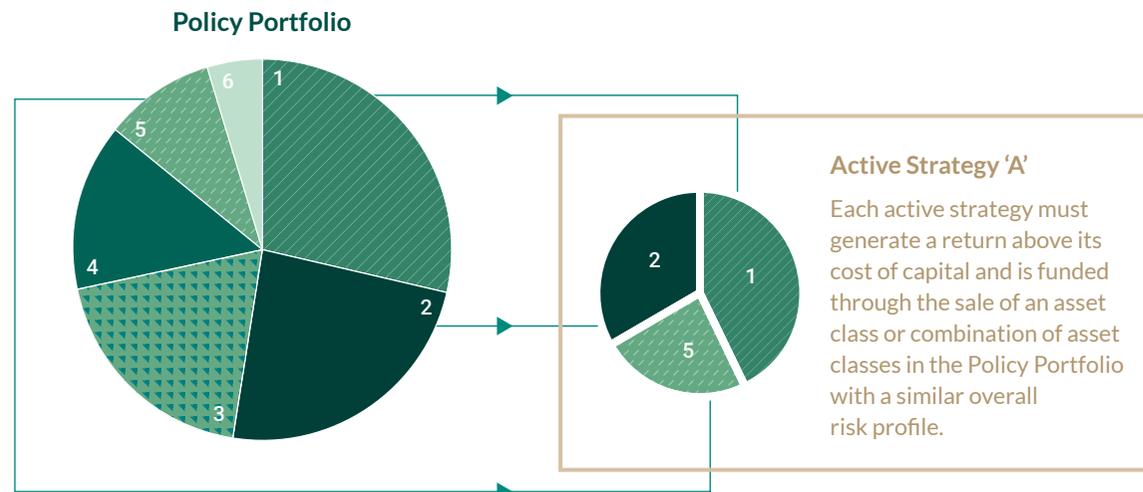
The Policy Portfolio comprises six asset classes: Developed Market Equities, Emerging Market Equities, Nominal Bonds and Cash, Inflation-linked Bonds, Private Equity, and Real Estate. Diversification enables the Policy Portfolio to generate good risk-adjusted returns over a 20-year period.

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 bursting 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 or particular assets or countries.

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 Cash, and Real Estate. Strategy ‘A’ is therefore expected to generate a return above that of the combination.



1	Nominal Bonds and Cash	4	Private Equity
2	Developed Market Equities	5	Real Estate
3	Emerging Market Equities	6	Inflation-linked Bonds

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 return and risk 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 additional systematic risk to the portfolio.

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, with each carrying a different risk and return profile. Growth assets such as equities generate higher returns, but are riskier. Defensive assets such as sovereign bonds offer lower returns for lower risk, and protect the portfolio in market downturns.

The GIC Board sets an active risk budget that the GIC Management can use for its alpha strategies.

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:

Playing to one's strengths



We pick and size 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.

Portfolio diversification



This starts with a clear understanding of the real underlying risks of each investment in various scenarios. Then we 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 that also 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 they work best in combination rather in concentration.

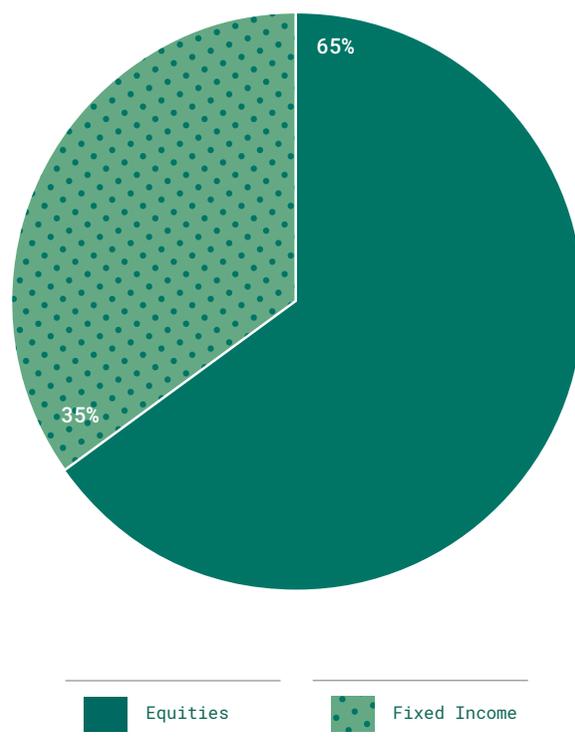
Disciplined and judicious portfolio management



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 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.

Distribution of asset classes in the Reference Portfolio which characterises the Client's risk preference



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 our Client's risk parameters. There will be differences in exposures and 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. GIC Management

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 our Client's risk parameters.

is empowered to add value within the risk limits stipulated by the GIC Board 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 may not necessarily be GIC Board Directors. 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. Additionally, the Investment

Board ensures that GIC takes into account potential reputational risks arising from investment activities.

The table below summarises the governance of the investment framework.

Governance of the investment framework

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 Management'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 risk tolerance in GIC's mandate set by the Client
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. 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 thoroughly 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 analysis is more varied and depends 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 long-term value is key. To deliver good

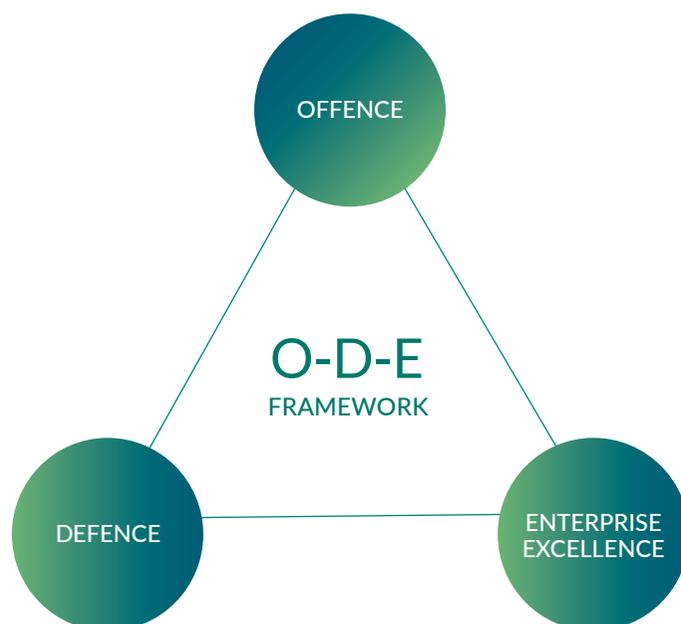
long-term returns, we consider all opportunities and risks that could drive investment value in the long run. These considerations, which include track record, ability, and integrity of management teams and business practices, are integral to our investment process. We expect our investee companies to 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).

GIC's investing approach is underpinned by our discipline to distinguish price from value. An asset's price is driven largely by market sentiment, while its value lies in its fundamental worth.

3.4 Navigating Thematic Changes

GIC's O-D-E framework



GIC's "O-D-E" approach

New forces, from climate change to geopolitical tensions to technological advances, play an increasingly important role in global economies and markets.

To ensure our continued performance over the long term, GIC identifies and organizes major thematic changes using a framework called O-D-E. It is a holistic approach we adopt for our investments and operations. **O** refers to going on the *Offensive* when it comes to investment opportunities, **D** indicates *Defensive* risk management, and **E** is the manner in which we constantly improve our operations and processes to achieve *Enterprise Excellence*.

In the next page, we explain how sustainability is a key focus area for GIC given its long-term impact on consumer and business behaviour, which in turn affects company valuations as well as the communities our investee companies serve. Technology, a second major theme, has also been increasingly important in shaping GIC's strategies. (For more information, you can refer to our [feature article](#) in our FY2018 Report.) In the table that follows this section, we illustrate how we have applied our O-D-E framework to two major disruptive forces in recent years, sustainability and technology.

GIC's Approach to Sustainability

Sustainability is core to GIC's mandate as a long-term investor managing the reserves for Singapore. It is an important investment issue and a key management priority. By sustainability, we mean Environmental, Social, and Governance (ESG) issues that could affect companies' performance and operations.

GIC was founded in 1981 to secure Singapore's long-term financial future, and tasked with preserving and enhancing the international purchasing power of the reserves under our management. Ensuring long-term

We believe that companies with stronger sustainability practices will generate better risk-adjusted investment returns over the long term, and this relationship will strengthen over time.

sustainability is therefore an important way for us to fulfil our responsibility. Sustainability trends and ESG risks have a profound and growing impact on both the physical as well as the financial

world. These factors shape the long-term prospects of companies, and hence their long-term value. Negative externalities, such as climate change, are also increasingly being incorporated into the decisions of regulators, businesses and consumers. As a long-term investor, we position our portfolio to weather a range of market and economic conditions by taking ESG risks into account at every stage of the investment process, and by supporting our investee companies in their transition towards more sustainable business practices and a low-carbon economy.

GIC's management views sustainability as a key priority. Our Sustainability Committee, which was formalised in 2016, is tasked to implement our sustainability framework, support and promote sound stewardship, and monitor and respond to emerging ESG issues. The committee engages our Investment Board on broad sustainability trends, emerging risks in our portfolio, as well as potential investment opportunities. These top-down insights are shared and empower our bottom-up teams across all asset classes to make informed decisions when assessing investments.

Our investment teams, through their engagement with the companies' management and industry experts, are able to gain better insights on a company's sustainability strategy and long-term positioning. This enables us to make better value comparisons. As a responsible investor, GIC takes a holistic and progressive approach to drive long-term positive outcomes for society. We believe it is more constructive to actively engage companies to support them in their transition towards long-term sustainability, rather than to adopt a blunt divestment approach.

By integrating an ESG lens into our management and investment process, we build resilience and diversification in our portfolio to achieve better long-term returns. Diversification is also essential to GIC's strategy to secure good long-term returns, and our investments span many sectors and impact many stakeholders. As a responsible steward, we strive to create better outcomes for our portfolio and the communities our investments touch.

Applying O-D-E framework to Sustainability & Technology

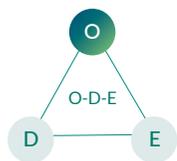
Overview

Sustainability

As a long-term investor, we believe that companies with good sustainability practices are likely to generate stronger investment returns over the long term. Our belief in responsible investing and good stewardship drives us to seek better outcomes for our portfolio and the communities our investments touch.

Technology

Technology is a force that continues to reshape entire industries. As technology has disrupted traditional industries and spawned new businesses, our investing and organizational efforts in this area have also expanded.



Offence

Sustainability

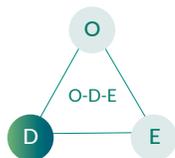
As regulators, consumers, and businesses increasingly act on sustainability considerations, new investment opportunities will open up. We aim to capture these opportunities by:

- **Integrating sustainability, including climate-related factors, into our investment processes**, for example, taking into account ESG factors in due diligence, risk assessment, and post-investment monitoring.
- **Investing in thematic opportunities arising from climate change**, for example, renewable energy assets, “green” buildings, and technologies that support the low-carbon transition.
- **Incorporating sustainability signals into quantitative strategies**, for example, by using proprietary data and analyses.

Technology

We gain from technological disruptions by investing in the winners of this shift. This includes:

- **Investing in rising stars with long-term potential:** New technological trends will bring about many promising entrants. As a long-term investor, we want to identify the long-term winners.
- **Looking out for the large incumbents:** While the spotlight is on new companies, we keep a keen eye on incumbent companies who, with their vast resources, are evolving and influencing industry shifts.
- **Staying agile and adaptable:** We keep up with evolving business models by maintaining a flexible mindset towards changing assumptions such as industry classification, pace of change, brand value and the like.



Defence

Sustainability

Sustainability trends, including issues around supply chains, resource scarcity, and climate change, pose certain investment risks, such as the risks of physical assets being damaged by extreme weather events, or the financial risks of assets being “stranded” as economies transition to a low-carbon economy. We protect our investments by:

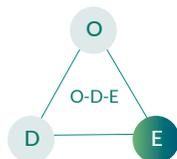
- **Regularly screening our existing portfolio** for a variety of ESG issues.
- **Conducting additional due diligence for companies exposed to greater sustainability risks**, and adjusting our long-term valuation and risk models accordingly. On many occasions, we have chosen not to invest in companies or structures when such risks could not be mitigated.
- **Actively engaging our portfolio companies** to improve corporate governance, ensure resilience against climate risks, and advocate for other positive environment and social outcomes. We maintain regular dialogues with the senior management and boards of directors on these issues. We also vote responsibly across all active and significant holdings.
- **Supporting the Taskforce on Climate-related Financial Disclosures (TCFD)**¹: We integrate the assessment of climate change-related risks and opportunities into each step of our investment process. We have developed a set of climate scenarios, which we use to stress-test our portfolio.

Technology

As our diversified portfolio holds many established companies, instituting a defensive stance is very important. This requires having a good understanding and assessment of the threats and opportunities faced by the incumbent companies in our existing holdings. We protect our portfolio value by:

- **Understanding the threats and opportunities driven by the technology shift:**
One significant benefit from investing in new businesses is a better appreciation of the threats and opportunities faced by incumbent companies. This enables us to more accurately assess the long-term intrinsic value of our portfolio holdings.
- **Working with investee companies to adjust to technology advances:**
We share our connections and insights, and work with our existing investee companies to evolve with and adapt to new realities. This is aligned with our long-term partnership approach, and contributes to the continued growth of these businesses in the communities that they operate in.
- **Sharing our public market insights with new investee companies:**
GIC has deep expertise in public market investing, and insights on how to operate a public company and manage the street effectively. Our investee companies who are looking to go public find this sharing useful.

¹ The FSB Task Force on Climate-related Financial Disclosures (TCFD) develops voluntary, consistent climate-related financial risk disclosures for use by companies. We find that it provides a practical framework for companies to disclose their climate-related strategies and investors to make investment decisions for the long term.



Enterprise Excellence

Sustainability

The manner in which we operate sustainably as an organization is as important as the way we invest.

We do this by:

- **Procuring sustainably:**
We communicate clear expectations for sustainable behaviour by our business partners, and do not enter into contracts with those who do not meet our standards.
- **Encouraging responsible consumption:**
We do this by cutting down on the use of non-recyclable materials, reducing energy consumption through technology and staff behaviours, and improving the environmental footprint of our office spaces.
- **Fostering collaboration and inclusion:**
We believe that an inclusive culture, where our people share a common purpose and sense of belonging, brings about exceptional contribution. Our culture embraces diversity of skills and views, and promotes respect and active contribution, for greater collective impact. You can read more in our “People” chapter.
- **Aiming to become carbon-neutral in our operations by FY2020/2021, across our 10 global offices.**

Technology

The investment business is not immune from the same offence and defence considerations. As technology continues to progress, we also need to continue evolving our practices and developing our people by:

- **Investing in new technologies:**
We invest significantly in new systems, software and infrastructure to improve decision making and efficiencies across the entire asset management process. For example, our early investment into cloud computing ultimately enabled GIC to adapt quickly to large-scale telecommuting.
- **Adjusting our processes and structure:**
We need to ensure digital solutions are relevant and effective. GIC Labs, our in-house technology development centre, creates customised solutions to boost the efficiency of our workforce and the organization. We also embed technology specialists in the investment departments to complement and improve data analytics and insights for deal underwriting and investment decisions.
- **Adopting a tech-driven and innovative culture:**
We recognise the need for culture change, including the use of agile methods in our processes, greater experimentation and openness to learn and use new technology.

3.5 Investment Implementation

At GIC, our investment teams work to find attractive bottom-up investment opportunities. Our core investment groups are Public Equities, Fixed Income, Private Equity, Real Estate, and Infrastructure. In addition, our Integrated Strategies Group evaluates and invests in cross-asset investment opportunities. Our External Fund Managers supplement the expertise of our core investment groups, while the Portfolio Execution Group and Investment Services 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 financial interests of our Client.

Teams involved in GIC's investment implementation process

Asset Allocation

- **Economics & Investment Strategy**

Constructs long-term portfolio policy, undertakes medium-term asset allocation, as well as innovates alternative investment models

Public Markets

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

We invest 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**

In the private markets, we invest in opportunities that have the potential to generate high long-term real returns and the ability to diversify our portfolio

Cross-Asset

- **Integrated Strategies Group**

Focuses on cross-asset (public and private), and less conventional investment opportunities, develops thematic investment strategies, and actively expands our network of relationships beyond traditional domains

Investment Services

Supports the public and private market investment activities

Investment Groups in Public and Private Markets

GIC invests in both the 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 assets, in particular, also serve as a hedge against inflation.

Public Equities Group

Our equity investing effort is carried out by a team of in-house research analysts and portfolio managers, organized along 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 Group

GIC Fixed Income is broadly organized 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.

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 network of business links.

We manage a diversified portfolio to produce good risk-adjusted performance.

Private Equity Group

Our private equity (PE) universe includes buyouts, minority growth, pre-IPOs, venture capital, private credit, and special situations such as distressed debt, and secondary PE. We invest in companies directly and through funds. The direct investment programme is focused

Real Estate Group

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 office, retail, residential, industrial, and hospitality.

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.

Our infrastructure group takes a multipronged approach to investing.

Infrastructure Group

Our infrastructure group takes a multipronged 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.

Integrated Strategies Group

Our Integrated Strategies Group (ISG) focuses on cross-asset (public and private), and less conventional investment opportunities across products and geographies. ISG collaborates with the other groups to jointly invest in large investment opportunities. ISG also invests

independently in any of GIC's asset classes, where appropriate. It develops thematic investment strategies and expands our network of relationships beyond traditional domains.

External 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.

Portfolio Execution Group

The Portfolio Execution Group is responsible for implementing liquid market decisions, and is made up of two arms – the Global Trading Unit (GTU) and the Treasury and Portfolio Management Group (TPMG). GTU executes investment decisions across all public market asset classes and provides market intelligence. GTU is organized into four teams – Equities, Fixed Income and Currencies, Liquid Strategies, and Execution Research – and operates around the clock across three centres – Singapore, London, and New York. TPMG is responsible for total portfolio rebalancing, liquidity management, strategy funding, as well as equity beta replication and financing. Our portfolio managers seek efficiency while minimising transaction costs.

Investment Services

GIC has a dedicated investment services team that supports 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.

3.6 Managing Risks

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

Risk Governance

The GIC Board provides ultimate risk oversight. The Board approves the Policy Portfolio, which is constructed with our 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

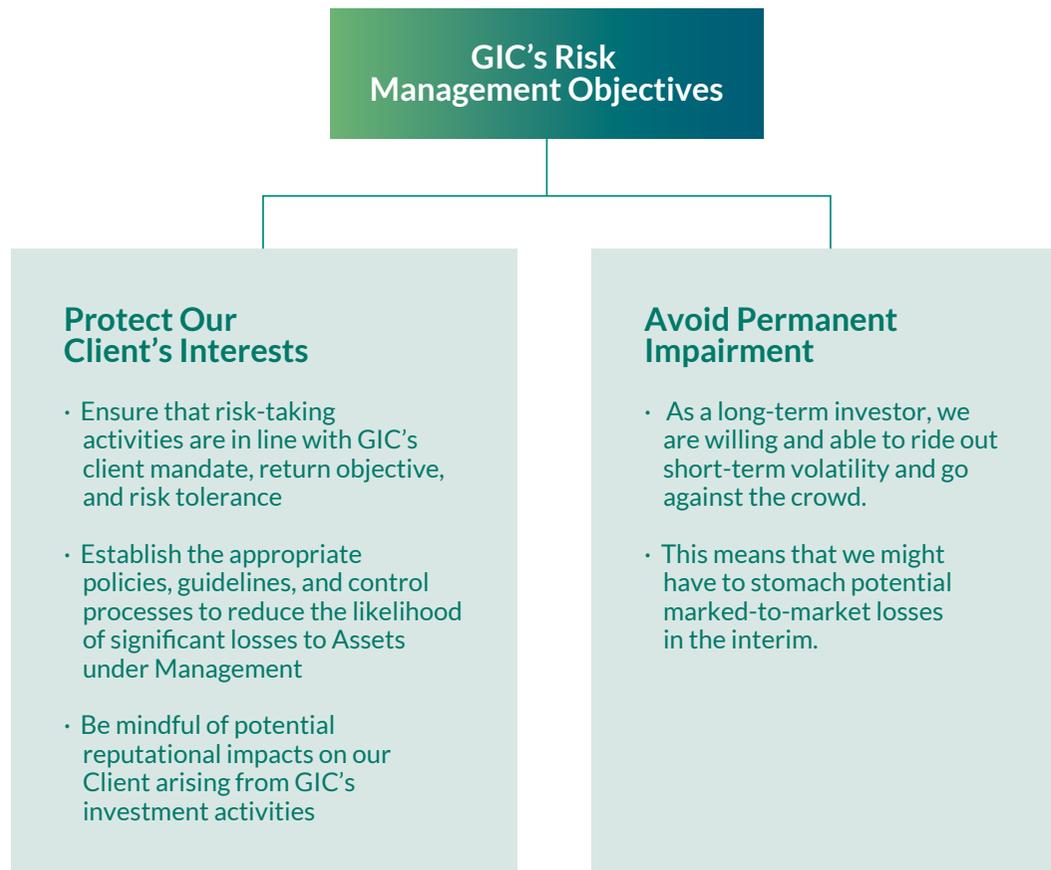
bands around the Policy Portfolio's target weights. In addition, the GIC Board sets an active risk budget to limit the risk arising from the deviation of the Active Portfolio from the Policy Portfolio. The GIC Board is supported by the Board Risk Committee, which advises the Board on risk matters. The Board Risk Committee sets the overall direction of risk management policies

Risk Management Objectives

GIC's risk management objectives are to ensure that:

1. The investment strategies pursued are consistent with the risk tolerance set by the Client, and within defined bounds authorised by the Client, Board, and Management.
2. The risks associated with each investment are understood well.
3. Policies, guidelines, and control processes are in place to reduce the likelihood of significant losses.
4. Any reputational impact due to our actions is carefully managed.

GIC's risk management objectives



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 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 responsibility to oversee implementation of risk policies, review significant risk issues from investments and operations, as well as to ensure the resolution of these issues.

Three Lines of Defence

GIC’s risk management model operates along “three lines of defence” which ensure that there is clarity and transparency in risk ownership and accountability.

1. The First Line: Operating Units

People are the cornerstone of any risk management system. All GIC staff are expected to act with integrity and exercise sound judgement; they need to understand, evaluate, and carefully manage the risks that 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: Independent Risk 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, as well as 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.

Three levels of risk management



Risk Management Approach

Our approach to risk management is multipronged:

- I. Managing portfolio investment risk to ensure that 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 GIC and our Client, 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 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; and

VIII. Managing people risk.

This multipronged 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,

GIC's risk management principles

GIC's mandate is to generate good long-term risk-adjusted returns

GIC's risk management objectives

1. The investment strategies pursued are consistent with the risk tolerance set by the Client, and within defined bounds authorised by the Client, Board, and Management.
2. The risks associated with each investment are understood well.
3. Policies, guidelines, and control processes are in place to reduce the likelihood of significant losses.
4. Any reputational impact due to our actions is carefully managed.

Risk types

Investment Risk	Tax Risk	Cyber Security, Technology, and Information Risk	Reputational Risk
Legal, Regulatory, and Compliance Risk	Operational Risk	Counterparty Credit Risk	People Risk

the group-wide investment approval framework sets out the approving authorities for investments based on size. Another 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, breaches in contracts, laws or regulations. Compliance risk refers to the risk of legal or regulatory sanctions, financial loss or reputational damage arising from non-compliance with applicable laws and regulations.

GIC's compliance programme comprises robust policies, procedures, effective controls, and monitoring and surveillance. The implementation of a rigorous compliance programme is underpinned by a strong culture of ethics 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 to act with integrity at all times. Regular and targeted training is conducted and an annual compliance quiz is administered to reinforce awareness and understanding, and to strengthen GIC's compliance culture. The compliance programme

also requires that all staff adhere to their confidentiality obligations and responsibilities.

We identify, measure, report, and monitor all the risks that are assumed.

The investment and operations teams collaborate with the legal and compliance function to manage legal, regulatory, and compliance risks arising from the group's investment activities. The legal and compliance function monitors compliance with laws and regulations, including laws on securities trading and investment, competition law requirements, financial crimes compliance, and licensing and regulatory approvals. 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 Risk Management Framework underscores our commitment to be compliant with tax laws, rules, regulations, and obligations set by the respective governments of the jurisdictions

in which we invest and operate. 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, 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. Our business continuity plan is tested and reviewed regularly to ensure that our procedures and infrastructure can support operations in the event of a business disruption. This enhances corporate resilience and safeguards the group's operations.

Ensuring Business Continuity at All Times

GIC establishes clear guidelines and processes to reduce the likelihood of significant unexpected losses to the portfolio. Similarly on the operations front, we maintain a robust crisis management and business continuity programme to ensure that we are well-equipped to respond to crisis events and manage the return to business as usual. Crisis events can include, but are not limited to, threats to staff safety or the continuity of GIC's business operations. A recent example is the COVID-19 pandemic. Having learnt from the experience of the 2003 SARS outbreak, our Business Continuity Management (BCM) team had put in place a detailed plan to respond to an infectious disease outbreak. These were stress-tested through regular exercises, and updated to be in line with industry best practice. When it became clear that the spread of COVID-19

was escalating, we were able to respond swiftly by implementing the precautionary measures in our plans, including split operations and large-scale telecommuting, without compromising our operational capabilities significantly.

A Coordinated, Global Response to Disruptions

Given the potentially extensive impacts of any crisis event, ensuring business continuity is a coordinated effort that involves representatives from all of GIC's offices and departments.

The 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 who implement response activities on the ground. During a disruption, they collectively ensure consistent communication, coordination and monitoring across GIC, and timely activation of business continuity plans so that critical business operations can proceed. Additionally, the local teams adjust and implement measures based on the latest national standards and developments.

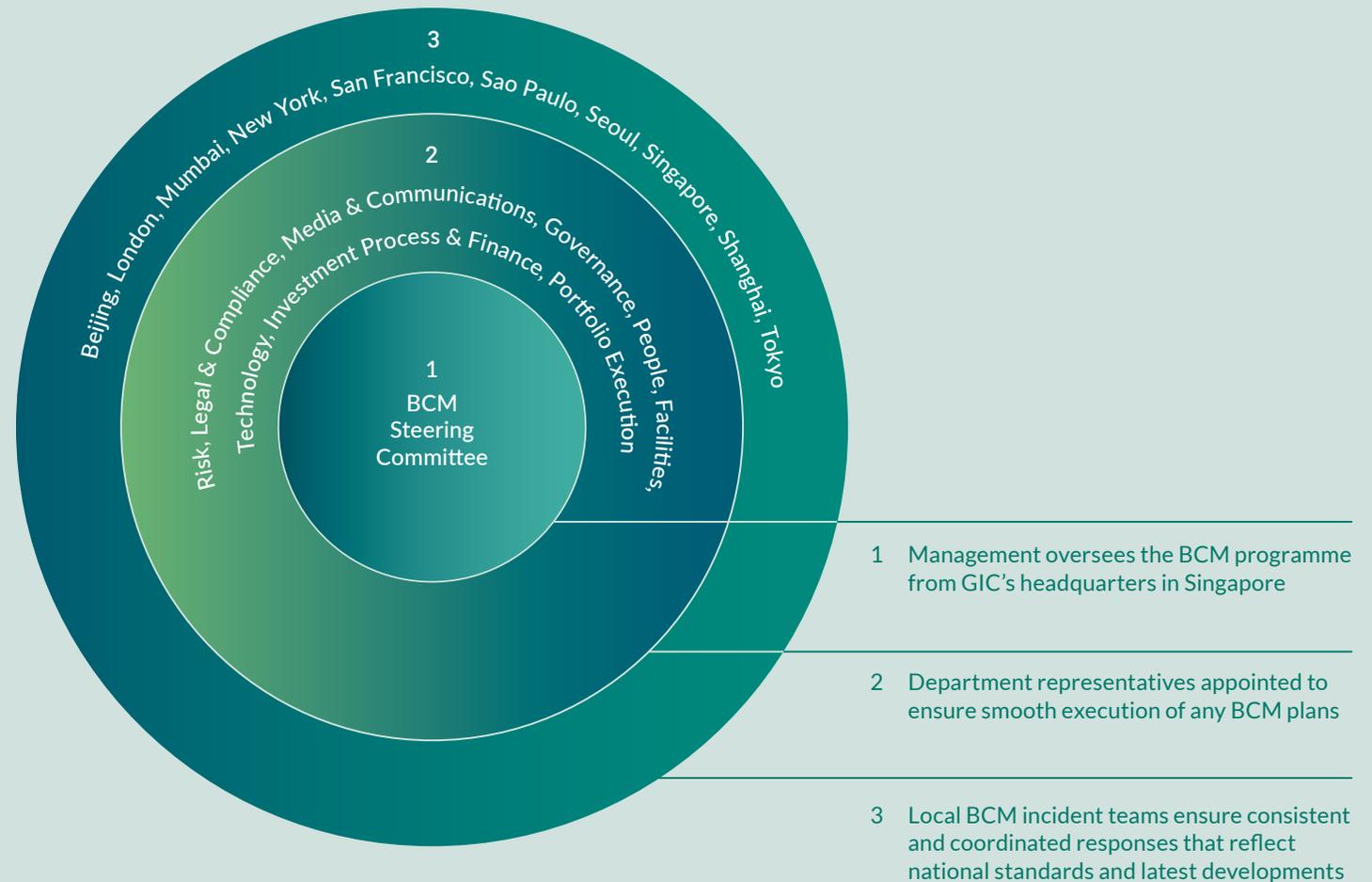
We also leverage technology for the efficient management of our business continuity programme. A standardised tool that adopts the GIC risk posture is used for data collection, analysis and development of strategies. The tool serves as the central repository for all BCM resources, enabling clarity and transparency.

Continuous Improvement

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 holds the ISO 22301 certification, the international standard for business continuity management, and maintains this certification through annual external attestations.

We also apply lessons from past crises to the continuous improvement of our BCM programme. In responding to the COVID-19 pandemic, we started with plans developed from our experience with SARS in 2003 and H1N1 in 2009. After two weeks of split operations and exposure to new practices such as contact tracing and quarantine orders, we recalibrated our internal processes to better suit the changing conditions. Through these experiences, we recognise the importance of agility and flexibility to adapt broad plans to cater to each situation.

Business Continuity Management processes



Managing Cyber Security, Technology & 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 use of IT across the organization. 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.

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 People Risk

We require our staff to observe the applicable laws and regulations, GIC's internal policies and procedures, to conduct ourselves in an exemplary manner at all times and uphold GIC's fiduciary duty to our Client.

Consistent with our long-term orientation, GIC's remuneration policies and practices support and reinforce a prudent risk-taking culture, as well as recognise and reward our people on the basis of

long-term results. We are committed to developing our employees to their full potential through many learning programmes. We continue to develop a strong leadership bench for GIC, allowing us to build new investment capabilities and extend our investment and operating platforms.

We continuously assess the control environment to ensure that any control weakness is promptly identified and addressed.

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.

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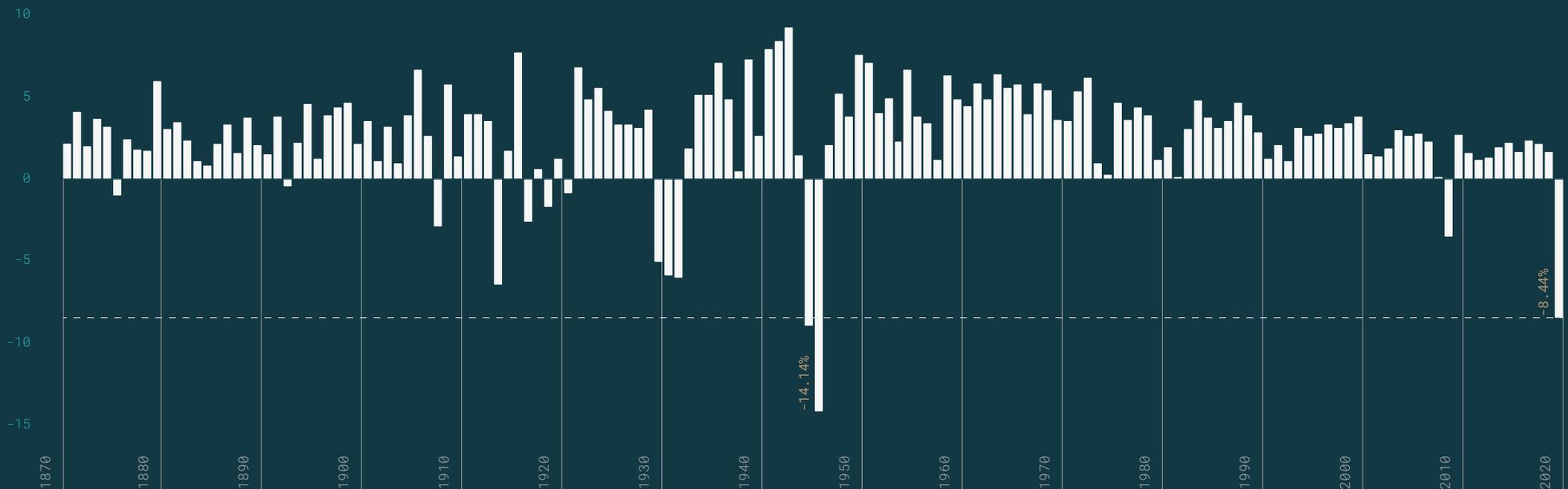
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A Changing Global Investment Environment

The global community is facing a public health crisis, an economic crisis, and financial turmoil all at once – an unprecedented combination in modern times. Extreme safe-distancing measures have resulted in the deepest global downturn since World War II (Figure 1). The outlook

for the investment environment is particularly uncertain. The crisis has also brought to the fore the market vulnerabilities that GIC had highlighted in previous annual reports, and accelerated several shifts that could shape the global investment landscape going forward.

Figure 1: Advanced economies GDP, y/y



Prior to COVID-19, our view was that asset prices were not providing adequate compensation for the level of risk that we were facing, given weakening fundamentals, limited policy room, and growing geopolitical uncertainties. This led us to reduce the overall risk in the portfolio, and stress-test our portfolio and investments against potential adverse scenarios. This defensive stance helped cushion

the portfolio during the worst of the financial market volatility in the first quarter of 2020.

While the low-growth, low-productivity, and fraught geopolitical environment is expected to persist, there are several major shifts that will likely result in lower future returns and increased volatility in the markets.

I. Uncharted policymaking given high debt levels and low interest rates

High debt and low interest rates

Pre-crisis, long-term interest rates globally were already at their lowest levels for at least 140 years (see

Figure 2 below). This was not just a result of central bank policy, but also longer-term trends, such as slower population growth, weaker productivity growth, and an excess of savings over investment.

Figure 2: Global long-term interest rate



Source: Jorda, Schularick & Taylor, Macrobond Financial AB, GIC Calculations

The low interest rates contributed to steadily increasing levels of debt as companies were increasingly incentivised to restructure balance sheets away from equity and towards debt. “Share buybacks”¹ were a key support for equity markets, particularly in the US. However, the financing of the share buybacks through the issuance of debt increased balance sheet fragility.

As the world emerges from this crisis, the aggregate debt burden will be higher still. Companies will have to borrow even more to weather the collapse in revenue during the economic slowdown. The large and rapid response by policymakers globally has also sharply increased public debt levels and shifted risk onto government balance sheets². Such elevated levels of debt in turn limits the extent interest rates could rise without causing a significant slowdown in the economy.

To date, the rapid policy response and fall in interest rates have helped boost asset prices and reduce the likelihood of a deep financial crisis. With policy interest rates at or already below zero, central banks have had to resort to increasingly unconventional measures to support the economy. In many countries, central banks have

increased the range of assets purchased and reduced the quality of collateral needed.

Paradigm shifts in policymaking

Two fundamental changes are happening to policymaking. The first relates to monetary policy. The major central banks are now unlikely to respond pre-emptively to signs of higher inflation, and are instead willing to accommodate periods of above-target inflation. This is a marked change from the past when interest rates were usually raised in response to leading indicators of inflation, which subsequently dampened economic activity.

The second is the bigger role played by fiscal policy in stimulating the economy, given limited policy room for central banks to cut rates. The size of fiscal stimulus packages is expected to be US\$11 trillion, almost 20% of GDP for advanced economies and about 5% of GDP for emerging economies. Alongside the impact of lower tax revenues and higher government transfers due to the deep recession, these stimulus packages are expected to contribute to an increase in public

debt of around 19% of global GDP in 2020 alone. Not all countries can afford such large-scale stimulus, and concerns over how these programmes are financed will likely weigh on debt markets, particularly in lower-income economies and those that are reliant on foreign capital flows. Relatedly, there is also greater implicit or explicit cooperation with monetary policy in either leveraging up fiscal programmes, increasing purchases of government debt, or keeping financing costs for the government low. While these coordinated monetary and fiscal policies have been critical in supporting the economy, they may prove difficult to calibrate and reverse in some cases once the economy normalises.

These shifts in policymaking have the potential to change the investment environment in two ways.

1. Increased risk of higher inflation over the medium term: If central banks deliberately keep rates low even as economic activity increases, economies could overheat, resulting in upward pressure on prices. This risk scenario is only likely to play out over the medium term given the strong disinflationary forces in the present environment. Should it

¹ This refers to corporate re-purchases of equities, funded by debt issuance.

² The IMF estimates public debt in Advanced Economies as a share of GDP to rise from 105% in 2019 to 131% in 2020 - much higher than 92% recorded during the Global Financial Crisis. In the Emerging Market Economies, it is expected to rise from 52% to 63%, as compared to 39% in 2009. Source: IMF World Economic Outlook Update June 2020, [IMF Global Debt Database](#)

materialise, however, it would imply a very different investment landscape relative to what investors have been used to. In particular, the correlation between equities and bonds could become positive, making it difficult for asset allocators to achieve diversification.

- 2. Currency moves could play a larger role in asset returns for a global investor:** As the effectiveness of the interest rate channel for monetary policy decreases, more emphasis will be placed on increasing purchases of government debt and potentially capping interest rates, which could lead to capital flight and currency depreciations.

These shifts are taking place at different degrees in different countries and regions. Understanding and getting ahead of these developments will be key for investors to navigate the investment environment.

In the post COVID-19 world, global supply chains are likely to undergo significant structural change.

II. Intensified headwinds for globalisation

A major theme emerging out of the COVID-19 crisis is the increasing emphasis by corporates on resilience. Companies are re-thinking their global supply chains to increase reliability and reduce complexity. They will likely accelerate the adoption of technology such as advanced robotics and additive manufacturing as well as digitalisation of content. This will help shorten supply chains and reduce the exposure of goods production to trade. Companies will also look to diversify their production geographically, or bring production closer to home. In the post-COVID-19 world, global supply chains are likely to undergo significant structural change.

Changes in national policies also play a role. National security concerns have already led to pressure to re-shore supply chains for products such as pharmaceuticals, medical equipment,

and technology. Restrictions on the movement of labour and capital could also tighten to protect domestic interests.

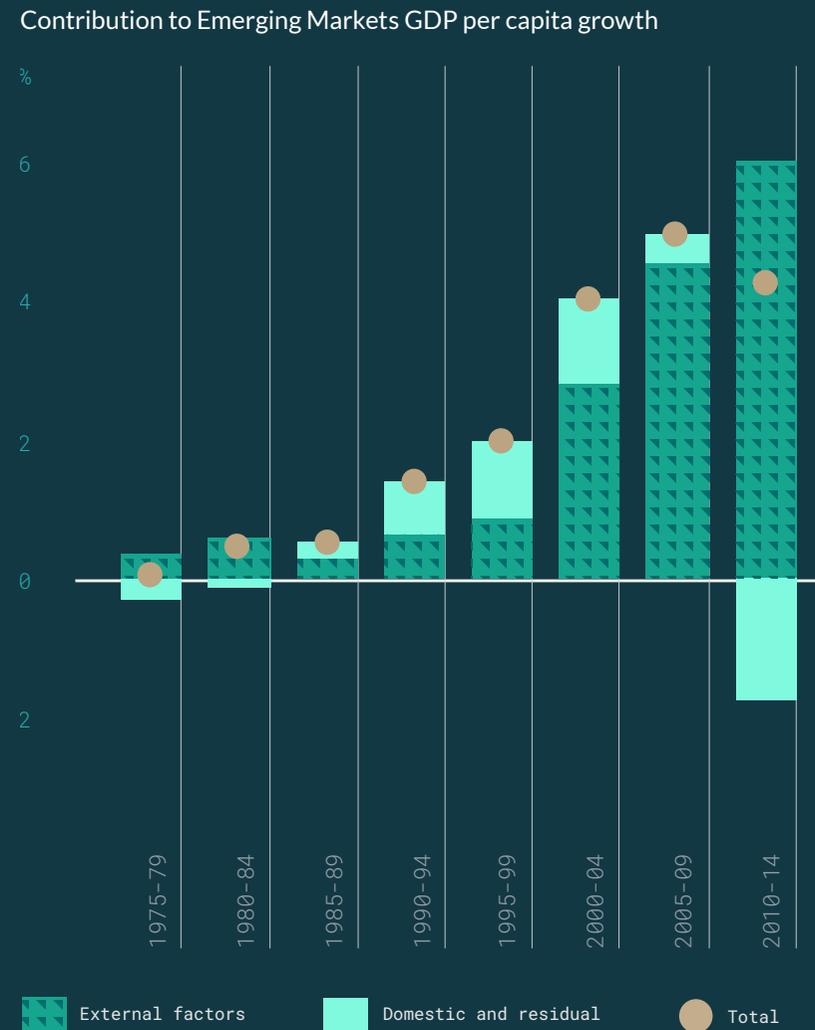
Strains in the US-China relationship will remain a significant headwind, with tensions rising in the run-up to the November 2020 US presidential elections. There could be further restrictions related to technology, with the US already excluding Chinese firms from its Information and Communications Technology supply chains, and limiting China's access to US-origin technology and materials. Strategic sectors such as healthcare and defence are likely to see more re-shoring to the US. In response, China's strategy is to globalise in specific sectors such as healthcare, substitute local suppliers for US IT sector suppliers, and get closer to large end-markets like the US by producing in Mexico.

In some ways, these shifts will lead to a more robust system. Manufacturers that used to run very lean processes are

considering introducing redundancies into their systems. Companies are also diversifying their suppliers, and standardising parts and processes to make them more modular and easily replaceable with alternatives. While these are not new considerations for global manufacturers, the crisis has highlighted the necessity and urgency of moving forward on these changes. These shifts will help ensure a more secure and stable supply of goods and products.

However, a major retreat in globalisation would hurt productivity growth by preventing (i) more efficient global allocation of resources, (ii) more competition between companies, and (iii) knowledge and technology transfers. It would also reduce businesses' access to cheaper and higher quality inputs, and consumers' access to lower prices and a greater variety of products and services. This could be especially detrimental to emerging markets that have historically relied on a more export- and foreign investment-led growth model (Figure 3).

Figure 3: External factors have lifted Emerging Markets growth



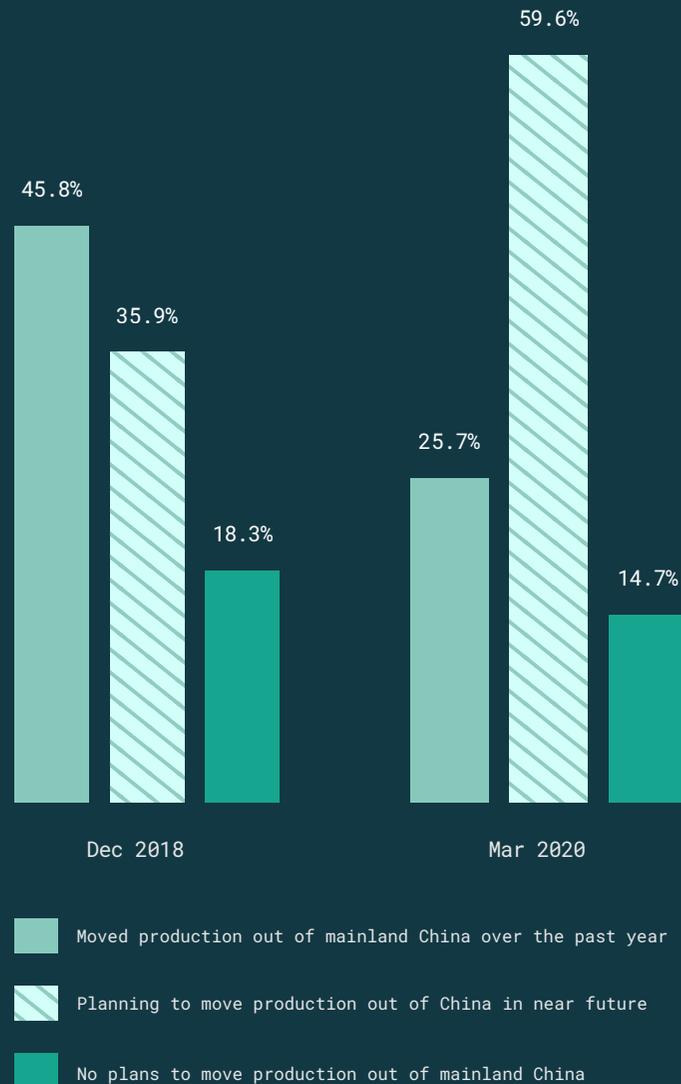
Source: The International Monetary Fund

III. Asia to see rising headwinds, but still outperform over the long term

As highlighted in our [feature article](#) last year, GIC has been committed to Asia's growth story for over three decades. Our belief in Asia's resilience rests not only in the region's improving institutions and macroeconomic policies, but also growth in exports and intra-regional trade. However, there are important differences across Asian economies with respect to the level of development, economic structures, and institutional capabilities. The capabilities to deal with the pandemic also differ across the region, which could imply a less synchronous recovery. Country differentiation is, consequently, even more important.

The hit from the COVID-19 outbreak to Asia's economic growth has been significant. For instance, China's GDP contracted by 6.8% year-on-year in the first quarter of 2020. A number of Asian countries were quick to introduce strict virus containment measures and sizeable policy support, which have to

Figure 4: Plans to move production out of China



Source: UBS Evidence Lab - Impact of Trade War on Japan, South Korea and Taiwan Manufacturers B2B Survey

date shown efficacy in flattening the virus curve for a number of countries, including China and South Korea.

The economic recovery will take time as supply normalisation will be gradual, precautionary savings will stay high, and external demand will remain subdued given the different stages of virus transmission across markets and possible subsequent waves of infection.

As discussed in the previous section, some diversification of global supply chains to avoid heavy concentration on production from China is also likely to accelerate (Figure 4). While some of this will result in re-shoring production to home markets, many companies are turning to other Asian economies, like Taiwan, India, and ASEAN, as alternatives. For example, registered foreign direct investment in Vietnam has picked up pace since the US-China trade war started in late-2018.

As we have seen in the past, even in the face of large uncertainties, the Asian governments, businesses, and people have shown the resourcefulness to adapt and adjust their growth models. The handling of the COVID-19 crisis

also demonstrated the maturity in Asia's institutions and governance. We believe that investment in healthcare systems will increase in coming years, with positive knock-on effects in terms of preparedness for future pandemics, higher life expectancy and improved quality of life.

Over the longer term, Asia can continue to derive solid growth from (i) urbanisation and middle-income growth, (ii) investments in infrastructure and human capital, and (iii) deeper regional integration of economies and capital markets. While headline risks have indeed risen, these factors should continue to generate self-sustaining growth in Asia, including China, and drive its outperformance over the long term. However, given the challenges going forward, including from increasing headwinds to globalisation, it is imperative that governments across the region are steadfast in their efforts to introduce structural reforms that can help support the potential growth rates of their economies and their adaptability to an ever-changing global economic landscape.

IV. Industry consolidation to increase

The COVID-19 crisis has drastically weakened the finances of many companies, particularly small- to medium-sized ones. Many will be forced to file for bankruptcy, secure additional funding, or seek mergers or other strategic alternatives. While fiscal packages have been introduced to provide support to the corporate

sector, the default rate of global listed companies³ has already risen to the highest level since the Global Financial Crisis. This will continue to rise in the near term and could accelerate should the crisis prolong.

The markets reflect these dynamics with investors showing a strong

preference for companies with more resilient balance sheets and business models. Smaller companies may be particularly vulnerable to consolidation. Many came into this crisis with high leverage, while also facing rising competitive pressures including technological disruption. Barring regulatory action, large

³ Source: S&P Global

Figure 5: Private equity groups with record dry powder



companies, with stronger financials and technological advantages, may be better positioned to become even bigger and stronger.

In addition, private equity dry powder reached record highs (Figure 5) in June 2020, providing further support for industry consolidation going forward. Long-term investors could also play an important role in providing capital to sustain good businesses through these difficult times.

How is GIC responding to this changing environment?

Periodic crises are a feature of global financial markets and an unavoidable facet of investing for the long term. The lessons learnt from GIC's past investment history help us improve our responses to current challenges.

First and foremost, we must have a deep understanding of who we are, including our mandate, values, risk capacity, capabilities, and constraints. This in turn drives our two key investment principles – *Prepare, not Predict*, and *Focus on the Long Term*.

1. *Prepare, not Predict* :

To prepare for a wide range of potential outcomes with high downside risks, we stress-test our assumptions as well as consensus beliefs against a range of alternative scenarios. Diversification is key to constructing a resilient portfolio. We need to remain humble, recognising that there is much we do not know about the changing and unpredictable future. At the same time, we continue striving to learn as much as we can to respond as best we can.

2. *Focus on the Long Term* :

This is integral to our mandate and investment approach. We emphasise fundamental trends over market sentiments, given the expectation that with the fullness of time, investment returns would reflect the fundamentals. We also continue to build on our long-term partnerships and capabilities to provide flexible capital.

With the conditions of high asset valuation and profound uncertainty across a wide range of structural issues as described above, we face an elevated risk of permanent portfolio impairment. Hence, our first order of business is to

contain that risk at the overall portfolio level. In addition, when underwriting investment deals, we need to emphasise resilience and optionality, and yet be prepared to take advantage of market volatility if there are attractive risk-reward opportunities.

Finally, we need to **maintain organizational resilience**. Our considerable business continuity planning was tested by the unique nature of this pandemic, which not only triggered extreme market volatility but also affected our operations across our 10 offices. As the impact of COVID-19 is likely to last for some time, and such 'known unknown' events could also become more common in the future, we need to ensure that our operations, digital infrastructure and people are able to sustain performance, especially through such challenging times.

The investment uncertainties that result from the COVID-19 pandemic will require vigilance, agility, and resilience for the journey ahead. We continue to adhere to our core values and investment principles, refine our playbook and processes, and do our best to achieve steady long-term returns on the reserves under our management.

5 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.

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5.1

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

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

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 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.

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.

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 the MOF, include proceeds from the issuance of Singapore 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 the MOF's website.)

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. Under the Constitution, the Government is

The President of Singapore

Since 1991, the Constitution of Singapore has provided for the 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. The system aims to prevent the Government of the day from drawing on past reserves or spending reserves not accumulated during its current term in office. 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.

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

the Accountant-General of Singapore. These reports contain the financial statements, holdings and bank account balances. 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 Government mandates GIC to manage Singapore's foreign reserves with the aim of achieving good long-term real returns.

As a Fifth Schedule company, GIC is directly accountable in a number of key areas to the Singapore President. 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

for GIC to take in generating long-term investment returns is characterised by the Reference Portfolio.

The Government, represented by the 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 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. These companies are also audited by GIC's internal audit department.

Other companies in the Group and the investment holding companies are audited by public accounting firms.

The GIC Board

The GIC Board is responsible for the GIC's Policy Portfolio that 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 the 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 and Organization Committee

The Human Resource and Organization Committee oversees organizational matters in GIC, including compensation policies, talent development, succession planning, and organizational 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 that apply to the entire group, and oversees organizational 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 markets for investment themes and investible opportunities for the portfolio, and managing the risk-reward of the Active Portfolio.

3. Direct Investment Steering Committee

The Direct Investment Steering Committee oversees the strategic plan, as well as the progress and pace of direct investments across GIC. It also reviews relationships with investee companies to help identify and develop opportunities. The committee does not approve investments.

4. Group Risk Committee

The Group Risk Committee provides oversight for the risk management policies and practices for the GIC Group. The committee approves frameworks and policies relating to risk management in areas such as investment, credit, operations, IT, 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.

5. 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 organization.

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, the medium- to long-term outlook for investment opportunities around the world.
Board Committees	<p>Investment Strategies Committee</p> <ul style="list-style-type: none"> Assists the GIC Board in evaluating 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. <hr/> <p>Investment Board</p> <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. <hr/> <p>Risk Committee</p> <ul style="list-style-type: none"> Oversees the effectiveness of risk management policies and practices in the GIC Group. <hr/> <p>Audit Committee</p> <ul style="list-style-type: none"> Looks into the effectiveness of the internal control systems for safeguarding company assets and Client's investment portfolios. Reviews integrity of the financial reporting process, significant ethics violations, compliance with regulatory and legal requirements, and issues of fraud and financial losses. <hr/> <p>Human Resource and Organization Committee</p> <ul style="list-style-type: none"> Oversees organizational matters in GIC, including compensation policies, talent development, succession planning, and organizational development.
GIC Management	<ul style="list-style-type: none"> Formulates and executes investment strategies. Constructs Active Portfolio, with an overlay of skill-based, active strategies.

5.2 GIC Board, Board Committees and Management Committees

Board of Directors	Board Committees		International Advisory Board
	Investment Strategies Committee	Risk Committee	
Chairman Lee Hsien Loong	Chairman Tharman Shanmugaratnam	Chairman Lim Hng Kiang	Chairman Teo Chee Hean
Deputy Chairman Tharman Shanmugaratnam	Deputy Chairman Peter Seah Lim Huat	Members Loh Boon Chye Lam Kun Kin Seck Wai Kwong	Members G Leonard Baker Jr Léon Bressler Dr Mohamed El-Erian Uday Kotak Carsten Stendevad Glenn Hutchins <i>(appointed 1 April 2020)</i>
Directors Heng Swee Keat Teo Chee Hean Lawrence Wong Lim Hng Kiang Ang Kong Hua Peter Seah Lim Huat Chew Choon Seng Hsieh Fu Hua Loh Boon Chye Gautam Banerjee Suppiah Dhanabalan Koh Boon Hwee Dr Tony Tan Keng Yam Seck Wai Kwong Lim Chow Kiat Dr Jeffrey Jaensubhakij	Members Heng Swee Keat Lawrence Wong Chan Chun Sing Lim Hng Kiang Ang Kong Hua	Advisors Dr Martin L Leibowitz G Leonard Baker Jr Dr Mohamed El-Erian Carsten Stendevad Glenn Hutchins <i>(appointed 1 April 2020)</i>	
	Investment Board	Audit Committee	
	Chairman Ang Kong Hua	Chairman Chew Choon Seng	
	Members Hsieh Fu Hua G Leonard Baker Jr Léon Bressler Koh Boon Hwee Glenn Hutchins <i>(appointed 1 April 2020)</i>	Members Loh Boon Chye Gautam Banerjee	
		Human Resource and Organization Committee	
		Chairman Peter Seah Lim Huat	
		Members Chew Choon Seng Hsieh Fu Hua Gautam Banerjee	

Management Committees

Group Executive Committee	Investment Management Committee	Direct Investment Steering Committee	Group Risk Committee	Corporate Management Committee
<p>Chairman</p> <p>Lim Chow Kiat Chief Executive Officer</p>	<p>Chairman</p> <p>Dr Jeffrey Jaensubhakij Group Chief Investment Officer</p>	<p>Chairman</p> <p>Lim Chow Kiat Chief Executive Officer</p>	<p>Chairman</p> <p>Jin Yuen Yee Chief Risk Officer</p>	<p>Chairman</p> <p>Tay Lim Hock Deputy Group Chief Investment Officer and Chief Operating Officer</p>
<p>Members</p> <p>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, President (Americas) and Director, Integrated Strategies</p> <p>Jin Yuen Yee Chief Risk Officer</p> <p>Deanna Ong Chief People Officer</p> <p>Wu Choy Peng Chief Technology Officer</p> <p>Choo Yong Cheen Chief Investment Officer, Private Equity</p> <p>Liew Tzu Mi Chief Investment Officer, Fixed Income</p> <p>Bryan Yeo Chief Investment Officer, Public Equities</p>	<p>Members</p> <p>Jin Yuen Yee Chief Risk Officer</p> <p>Kevin Bong Director, Economics & Investment Strategy</p> <p>Bryan Yeo Chief Investment Officer, Public Equities</p> <p>Liew Tzu Mi Chief Investment Officer, Fixed Income</p> <p>Ang Eng Seng Chief Investment Officer, Infrastructure</p> <p>Choo Yong Cheen Chief Investment Officer, Private Equity</p> <p>Lee Kok Sun Chief Investment Officer, Real Estate</p> <p>Betty Tay Director, External Managers</p> <p>Arjun Khullar Head, Integrated Strategies</p> <p>Sam Kim Director, Portfolio Execution</p> <p>Dr Prakash Kannan Chief Economist and Head, Total Portfolio Management, Economics & Investment Strategy</p>	<p>Members</p> <p>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, President (Americas) and Director, Integrated Strategies</p> <p>Arjun Gupta President (Europe)</p> <p>Bryan Yeo Chief Investment Officer, Public Equities</p> <p>Choo Yong Cheen Chief Investment Officer, Private Equity</p> <p>Lee Kok Sun Chief Investment Officer, Real Estate</p> <p>Ang Eng Seng Chief Investment Officer, Infrastructure</p>	<p>Members</p> <p>William Ng Head, Investment Risk Management, Risk and Performance Management</p> <p>Charles Lim General Counsel</p> <p>Chan Hoe Yin Director, Investment Services (Private Markets and Finance)</p> <p>Leong Wing Kwan Director, Investment Services (Public Markets)</p> <p>Kevin Bong Director, Economics & Investment Strategy</p> <p>Sam Liew Director, Technology</p> <p>Ravi Balasubramanian Head, India Equity Investments, Public Equities</p> <p>Daniel Loo Head, Portfolio Solutions Group, Fixed Income</p> <p>John Tang Co-Head, Global Investments, Strategy & Risk, Private Equity</p> <p>Tracy Stroh Head, Research and Strategic Planning, Real Estate</p> <p>Sam Kim Director, Portfolio Execution</p>	<p>Members</p> <p>Deanna Ong Chief People Officer</p> <p>Wu Choy Peng Chief Technology Officer</p> <p>Charles Lim General Counsel</p> <p>Wong Ai Chiat Director, Corporate Administration and Infrastructure</p> <p>Jason Leow Director Corporate Affairs and Communications</p> <p>Peter Goh Director, Human Resource and Organization</p> <p>Vincent Cheang Director, Internal Audit</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 Liew Director, Technology</p> <p>Shang Thong Chie Head, Enterprise Strategy</p> <p>William Ng Head, Investment Risk Management, Risk and Performance Management</p>

5.3 Organizational Structure

Board of Directors

International Advisory Board

Board Committees

Investment Strategies Committee
Investment Board

Risk Committee
Audit Committee

Human Resource and Organization Committee

Group Executive Committee

[Lim Chow Kiat](#)
Chief Executive Officer

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

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

[Lim Kee Chong](#)
Deputy Group Chief Investment Officer

[Jin Yuen Yee](#)
Chief Risk Officer

[Deanna Ong](#)
Chief People Officer

[Wu Choy Peng](#)
Chief Technology Officer

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

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

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

Corporate Headquarters

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

[Jason Leow](#)
Corporate Affairs &
Communications

[Shang Thong Chie](#)
Enterprise Strategy

[Deanna Ong](#)
Governance & Client Relations

[Peter Goh](#)
Human Resource & Organization

[Vincent Cheang](#)
Internal Audit

[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

[Wu Choy Peng](#)
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

[Prakash Kannan](#)
Chief Economist

Global Offices

[Lim Kee Chong](#)
President (Americas)

[Arjun Gupta](#)
President (Europe)

[Sharon Sun](#)
Beijing

[Kishore Gotety](#)
Mumbai

[Eric Wilmes](#)
San Francisco

[Wolfgang Schwerdtle](#)
São Paulo

[Cai Wenzheng](#)
Seoul

[Li Yu](#)
Shanghai

[Ken Sugimoto](#)
Tokyo

5.4 Board, Board Committee Members and Advisors



Lee Hsien Loong

Prime Minister

Lee Hsien Loong has been Prime Minister of Singapore since 2004. He is Chairman of GIC. He was previously Deputy Prime Minister and has also held ministerial appointments in Trade and Industry, Defence and Finance. Mr Lee chaired the Monetary Authority of Singapore from 1998 to 2004, where he shifted MAS towards a lighter supervisory touch. As Prime Minister, he launched SkillsFuture to support Singaporeans in embracing lifelong learning and skills, and the Smart Nation initiative to use technology to create a future of better living, more opportunities and stronger communities. Before entering politics, Mr Lee was a Brigadier-General in the Singapore Armed Forces.

Mr Lee holds a Bachelor of Arts (First Class Honours) in Mathematics and a Diploma in Computer Science from Cambridge University, as well as a Master in Public Administration from Harvard University.



Tharman Shanmugaratnam

Senior Minister and Coordinating Minister for Social Policies

Tharman Shanmugaratnam is Senior Minister of 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 also Deputy Chairman of GIC and chairs its Investment Strategies Committee. Tharman chairs the Group of Thirty, an independent global council of economic and financial leaders. He led the G20 Eminent Persons Group on Global Financial Governance, and earlier chaired the International Monetary and Financial Committee, the key policy forum of the IMF. He is currently also on the External Advisory Group to the IMF Managing Director and the World Economic Forum's Board of Trustees, and co-chairs the Advisory Board for the UN's Human Development Report and the Global Education Forum. Tharman was Deputy Prime Minister from 2011 to 2019, and served as Minister for Finance from 2007 to 2015. He earlier served as Minister for Education for five years.

Tharman studied economics at the LSE and Cambridge University. He later obtained a Master's in Public Administration at Harvard University, where he was named a Lucius N Littauer Fellow.



Heng Swee Keat

Deputy Prime Minister and Minister for Finance

Heng Swee Keat is Deputy Prime Minister and the Minister for Finance. He is a member of the GIC Investment Strategies Committee. Mr Heng is Coordinating Minister for Economic Policies, as well as the chairman of the Future Economy Council and the National Research Foundation. He served as Minister for Education from 2011 to 2015. 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 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 Kennedy School of Government at Harvard University.



Teo Chee Hean

Senior Minister and Coordinating Minister for National Security

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 for 10 years, and has held Cabinet positions in Home Affairs, Defence, Education, Finance, Environment, and Communications. 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.



Lawrence Wong

Minister for Education and Second Minister for Finance

Lawrence Wong is the Minister for Education and Second Minister for Finance. He is a member of the GIC Investment Strategies Committee. He 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 his portfolio included 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 positions in the Ministry of Defence, the Ministry of Education, the Ministry of Communications and Information, the Ministry of Culture, Community and Youth, and the Ministry of 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 Kennedy School of Government at Harvard University.



Lim Hng Kiang

Special Advisor to Ministry of Trade & Industry

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 is also Deputy Chairman of the Monetary Authority of Singapore. Previously, Mr Lim was Minister for Trade and Industry from 2004 until 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. In his current appointment, Mr Lim provides advice on the Ministry's economic strategies to grow Singapore's capabilities and international economic space. He has held Cabinet posts 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.



Ang Kong Hua

*Chairman
Sembcorp Industries Ltd*

Ang Kong Hua is the Chairman of Sembcorp Industries. He chairs the GIC Investment Board and sits on 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.

Mr Ang holds a Bachelor of Science (Honours) in Economics from the University of Hull.



Peter Seah Lim Huat

*Chairman
DBS Group Holdings Ltd*

Peter Seah Lim Huat is the Chairman of DBS Group Holdings. He chairs GIC's Human Resource and Organization Committee, and is Deputy Chairman of the Investment Strategies Committee. He heads the boards of Singapore Airlines, Singapore Health Services, 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.

Mr Seah graduated from the University of Singapore with a degree in Business Administration.



Chew Choon Seng

*Former Chairman
Singapore Exchange Ltd*

Chew Choon Seng chairs the GIC Audit Committee and is a member of the Human Resource and Organization Committee. He was the CEO of Singapore Airlines from 2003 until his retirement in 2010, and a Governor of the International Air Transport Association from 2003 to 2010 and its Chairman in 2006 to 2007. He was a board director of the Singapore Exchange from 2004 and its Chairman from 2011 to 2016, and Chairman of the Singapore Tourism Board from 2011 to 2016. In 2017 to 2018, he was Chairman of the Council that revamped Singapore's Code of Corporate Governance.

Mr Chew graduated with a Bachelor of Mechanical Engineering (First Class Honours) from the University of Singapore. He also holds a Master of Science in Operations Research and Management Studies from the Imperial College of Science and Technology at the University of London.



Hsieh Fu Hua

*Co-Founder and Advisor
PrimePartners Group*

Hsieh Fu Hua is Co-Founder and Advisor to the PrimePartners Group, Chairman of Asia Capital Reinsurance Group Pte Ltd and a director of Grab Holdings Inc. He is a member of the GIC Investment Board and the Human Resource and Organization Committee. He also serves on the boards of several non-profit organizations. He chairs the National University of Singapore, the National University Health System, and the National Gallery Singapore. Previously, he was President of the National Council of Social Service and Chairman of Stewardship Asia Centre. 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, and Chairman of United Overseas Bank.

Mr Hsieh is an alumnus of the NUS Business School.



Loh Boon Chye

*Chief Executive Officer
Singapore Exchange Ltd*

Loh Boon Chye is the CEO of Singapore Exchange. He sits on the GIC Risk and Audit Committees. With close to 30 years of experience in the financial industry, he has played a key role in the development of Southeast Asia's capital markets. Prior to SGX, 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. He sits on the boards of Singapore Economic Development Board and World Federation of Exchanges.

Mr Loh holds a Bachelor of Engineering degree from the National University of Singapore.



Gautam Banerjee

*Senior Managing Director
and Chairman
Blackstone Singapore*

Gautam Banerjee is a Senior Managing Director and Chairman of Blackstone Singapore. He sits on the GIC Audit as well as the Human Resource and Organization Committees. 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, Singapore Telecommunications Ltd and Piramal Enterprises. He is also the Chairman of Singapore Centre for Social Enterprise (raiSE).

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.



S Dhanabalan

*Member
Council of Presidential Advisers*

S Dhanabalan is a member of the Council of Presidential Advisers and a permanent member of the Presidential Council for Minority Rights. He chairs the Board of Temasek Trustees and Mandai Park Holdings. He was Chairman of Temasek Holdings, Singapore Airlines and DBS Group Holdings, and sat on the board of GIC from 1981 to 2005. Mr Dhanabalan joined the Civil Service in 1960, before moving to the newly-formed Economic Development Board in 1961. As the need for industrial capital grew, he was part of a small group that established the Development Bank of Singapore, where he served from 1968 to 1978. After entering politics in 1976, Mr Dhanabalan served as Minister for Foreign Affairs, National Development, Trade and Industry, Culture and Community Development.

Mr Dhanabalan holds a degree in Economics from the University of Malaya in Singapore.



Koh Boon Hwee

*Chairman
Credence Partners Pte Ltd*

Koh Boon Hwee is the Chairman of Credence Partners Pte Ltd. He sits on the GIC Investment Board. He is also the Chairman of Sunningdale Tech, Far East Orchard, Rippledot Capital Advisers, the Securities Industry Council and Agilent Technologies. He started his career in 1977 at Hewlett-Packard and rose to become its Managing Director in Singapore from 1985 to 1990. From 1991 to 2000, he was Executive Chairman of the Wuthelam Group. Mr Koh was also the Chairman of Singapore Telecom, Singapore Airlines and DBS Bank at various times.

Mr Koh holds a Bachelor's Degree (First Class Honours) in Mechanical Engineering from the Imperial College of Science and Technology, University of London, and a Master in Business Administration (Distinction) from Harvard Business School. He also received an honorary doctorate from Imperial College London.



Dr Tony Tan Keng Yam

*Special Advisor
GIC*

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.

Dr Tan graduated from the University of Singapore with a First Class Honours Degree in Physics in 1962. He has a Master of Science degree from MIT and a PhD in Applied Mathematics from the University of Adelaide.



Seck Wai Kwong

*Chief Executive Officer
Eastspring Investments*

Seck Wai Kwong is the Chief Executive Officer of Eastspring Investments, the Asian investment management arm of Prudential Plc. He is a member of the GIC Risk 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 Global Advisory Board of Gordon College in Wenham, Massachusetts, and the Advisory Council of the Hong Kong University of Science and Technology Business School.

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.



Chan Chun Sing

Minister for Trade and Industry

Chan Chun Sing is Minister for Trade and Industry, responsible for driving Singapore's economic and industrial development. He is concurrently Minister-in-charge of the Public Service and Deputy Chairman of the People's Association. 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 and 2nd Minister for Defence. 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.



Lam Kun Kin

*Senior Executive Vice President,
Head of Global Treasury &
Investment Banking
Oversea-Chinese Banking
Corporation (OCBC)*

Lam Kun Kin is Senior Executive Vice President and Head of Global Treasury at OCBC Bank. He is a member of the GIC Risk Committee. At OCBC, he has responsibility for the Global Markets businesses and asset liability management, and also had oversight of the Global Investment business 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 in 2014. Currently, he serves on the boards of Bank of Singapore, OCBC Securities, AVIC Trust, REACH Community Service Society and the Great Eastern Group's Asset & Liability Committee and Investment Committee.

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.



Dr Martin Leibowitz

*Senior Advisor
Morgan Stanley*

Dr Martin L. Leibowitz is a Senior Advisor of Morgan Stanley, and Vice Chairman of its Research Department. He advises GIC's Investment Strategies and Risk Committees. 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.

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.



G. Leonard Baker

*Partner
Sutter Hill Ventures*

G. Leonard Baker is a Partner in 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. In 2005, he was conferred the Public Service Star Award in Singapore for his contributions in the areas of education and investment management.

Mr Baker holds a Bachelor of Arts in Mathematics from Yale and a Master in Business Administration from Stanford.



Léon Bressler

*Managing Partner
Aermont Capital*

Léon Bressler is the Managing Partner of Aermont Capital LLP, formerly Perella Weinberg Real Estate UK LLP, since its inception in 2007. He is a member of the GIC Investment Board. Prior to joining Perella Weinberg Partners, Mr Bressler was the Chairman and CEO of Unibail (now Unibail-Rodamco). Under his leadership, Unibail grew to become Europe's largest real estate investment trust. Mr Bressler began his career with Chase Manhattan Bank in Paris, before joining the Midland Bank Group where he became the Chairman of the Executive Board of Midland Bank SA. He has also held positions as CEO of the Lanvin Group and Managing Partner of Worms & Cie.

Mr Bressler holds a law degree from Institut d'Etudes Politiques de Paris.



Dr Mohamed El-Erian

*Chief Economic Advisor
Allianz*

Dr Mohamed El-Erian is Chief Economic Advisor at Allianz and President Elect of Queens' College Cambridge. He is an advisor to the GIC Investment Strategies Committee. 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 View 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 Foreign Policy list of Top Global Thinkers.

Dr El-Erian holds a Bachelor of Economics from Cambridge University, as well as a Master's and PhD in Economics from Oxford University.



Uday Kotak

*Managing Director and CEO
Kotak Mahindra Bank*

Uday Kotak is Founder, Managing Director and Chief Executive Officer of Kotak Mahindra Bank. He has led the group in a broad range of financial services for over 34 years. 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, and has served as Chairman of the Corporate Governance Committee constituted by SEBI. He has been awarded the Ernst & Young World Entrepreneur of the Year Award in 2014, and the USIBC Global Leadership Award at the 2018 India Ideas Summit organized by the U.S.-India Business Council.

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

*Senior Fellow
Bridgewater Associates*

Carsten Stendevad is a member of Bridgewater's senior management team and also serves as an advisor to the GIC Investment Strategies Committee and a Member of the Board of Novo Holdings (the investment arm of Novo Nordisk foundation). Previously, he was CEO of ATP, where he was responsible for all investment, pension, and administrative activities. Under his leadership, ATP redesigned its investment strategy with a new approach to portfolio construction and increased focus on direct investments in real assets, all while delivering strong investment returns. Previously, Mr Stendevad was a Managing Director in Citigroup's Investment Bank in New York, with global responsibility for its corporate finance advisory team. Earlier in his career, he was a consultant at McKinsey & Company and an analyst at the Central Bank 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. He is a recipient of the Order of Dannebrog awarded by HMQ Margrethe II of Denmark.



Glenn Hutchins

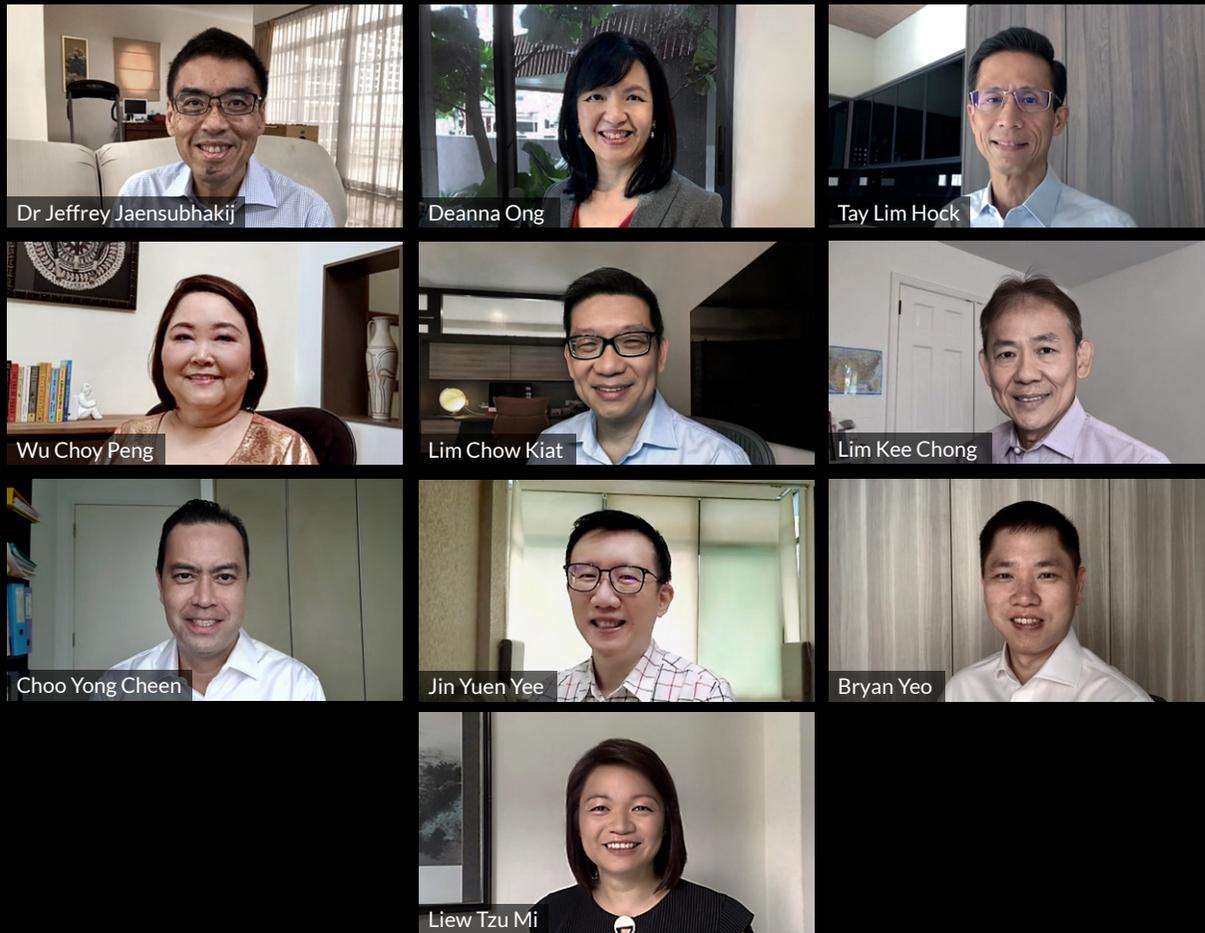
*Chairman
North Island*

Glenn Hutchins is Chairman of North Island and co-founder of Silver Lake. He is a director of AT&T and Virtu Financial; Co-Chairman of the Brookings Institution and CARE; on the Executive Committee of the Boston Celtics Basketball Team and the Obama Foundation; and a board member of the Federal Reserve Bank of New York, the New York Presbyterian Hospital and the Center for American Progress. He also founded the Hutchins Family Foundation to manage his philanthropic initiatives in academic research and public policy. Previously, Mr Hutchins 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.

5.5 Executive Management

Gallery View



Participants (from top, left to right)

Dr Jeffrey Jaensubhakij
Group Chief Investment Officer

Deanna Ong
Chief People Officer

Tay Lim Hock
Deputy Group Chief Investment Officer
and Chief Operating Officer

Wu Choy Peng
Chief Technology Officer

Lim Chow Kiat
Chief Executive Officer

Lim Kee Chong
Deputy Group Chief Investment Officer,
President (Americas) and Director,
Integrated Strategies

Choo Yong Cheen
Chief Investment Officer,
Private Equity

Jin Yuen Yee
Chief Risk Officer

Bryan Yeo
Chief Investment Officer,
Public Equities

Liew Tzu Mi
Chief Investment Officer,
Fixed Income



Lim Chow Kiat
Chief Executive Officer

Lim Chow Kiat was appointed Chief Executive Officer in January 2017. He was previously Group Chief Investment Officer of GIC and Deputy Group President. He joined GIC as a portfolio manager upon graduation in 1993 and subsequently 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 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, International Advisory Council of Mizuho Financial Group and the 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

Dr Jeffrey Jaensubhakij was appointed Group Chief Investment Officer in January 2017. He joined GIC in 1998 as a Senior Economist covering the US economy. He has held asset allocation portfolio responsibilities as Co-Head of Asset Allocation Strategy in the Economics and Strategy Department, and from 2003 to 2011 was Head of Total Return Equities and the US Equities teams based in GIC's New York Office. In 2011, he was appointed President, Europe, responsible for coordinating GIC's investment activities in Europe across public and private asset classes. He was appointed 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 assumed the role of Chief Operating Officer in July 2019. 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, Deputy President of PE & Infrastructure in 2010, and President in 2011. In January 2017, Mr Tay returned to London as President (Europe), and was concurrently Deputy Group Chief Investment Officer. 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 from the Stanford University Graduate School of Business.



Lim Kee Chong
Deputy Group Chief Investment
Officer, President (Americas) and
Director, Integrated Strategies

Lim Kee Chong has been GIC's Deputy Group Chief Investment Officer and Director of Integrated Strategies Group since April 2013. He is concurrently President (Americas) and is based in GIC's New York office. He joined GIC in 1987, and built his career in the Equities Department. He was appointed Head of Global Equities in July 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. As Director of Integrated Strategies, he heads a unit that looks at opportunities in both public and private companies.

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 is Chief Risk Officer at GIC. Before his appointment in April 2020, he served as Deputy Chief Risk Officer and Director of Risk and Performance Management Department. Since joining GIC in 2002 as a portfolio manager in the Foreign Exchange Department, Mr Jin has held several roles such as Head of Treasury and Currency Management, and Head of Real Return Programme. He was also Head of Global Macro and Head of Macro Research and Strategy in the Fixed Income Department. Between 2015 and 2017, Mr Jin served as the Senior Special Assistant to the Chief Executive Officer and Group Chief Investment Officer. Mr Jin sits 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 to oversee human capital strategy, talent management, leadership and organization development in GIC. She has been responsible for Human Resource & Organization 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. Ms Ong is currently a board member of Swiss Re Ltd and the International Forum of Sovereign Wealth Funds.

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.



Wu Choy Peng

Chief Technology Officer

Wu Choy Peng was appointed Chief Technology Officer in August 2017 to provide integrated oversight for technology and data analytics. Before joining GIC, she was Group Chief Information Officer of Singapore Telecommunications Limited. From 2006 to 2012, she was Group Chief Information Officer of Neptune Orient Lines Group. Ms Wu joined the National Computer Board upon graduation, and rose to hold various senior appointments including the Singapore Government's Chief Information Officer, Deputy Chief Executive (Industry) of the Infocomm Development Authority and Chief Information Officer of the Ministry of Education. Ms Wu is on the board and executive committee of the National University Health System, and chairs its Board IT Committee. In addition, she is on the board and a member of the Board Risk and Audit Committee of Info-communications Media Development Authority, as well as a board member of Integrated Health Information Systems.

Ms Wu holds a Bachelor of Science (Honours) degree in Computer/Communication Science/Mathematics and a Master of Science in Computer Science/Engineering, both from the University of Michigan, Ann Arbor.



Choo Yong Cheen

*Chief Investment Officer,
Private Equity*

Choo Yong Cheen was appointed GIC's Chief Investment Officer for Private Equity (PE) in July 2016. 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 ultimately managed an Asia regional equities portfolio, specialising in China. In 2011, he transferred to GIC Special Investments to run GIC's PE business across Asia, before being posted to London in 2014 to run the European PE 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 (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.



Liew Tzu Mi

*Chief Investment Officer,
Fixed Income*

Liew Tzu Mi was appointed Chief Investment Officer for Fixed Income in July 2016, overseeing the business in macro, credit 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 between 2008 and 2010, headed up the Macro Research and Strategy team at its inception in 2011 and the Global Macro business from 2011 to 2016. Ms Liew is a member of the Ministry of Defence SAVER-Premium Board of Trustee 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 also completed the Advanced Management Programme from INSEAD.



Bryan Yeo

*Chief Investment Officer,
Public Equities*

Bryan Yeo was appointed Chief Investment Officer for Public Equities in June 2016. In his role, he focuses on capital allocation, drives the aggregate equities portfolio construction and provides the vision and strategic direction for the business. He joined 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.

6 Our People

GIC employees are guided by PRIME values —
Prudence, **R**espect, **I**ntegrity, **M**erit, and **E**xcellence
— that serve as our organizational compass.

1

Letter from the
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Managing
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Our People

6.1

Our People and Values

GIC employees are guided by PRIME values – Prudence, Respect, Integrity, Merit, and Excellence. Together, they serve as our organizational compass.

One Global Team

Our diverse workforce of over 1,700 employees come from more than 40 countries, reflecting the global nature of our work. They operate from our Singapore headquarters and offices in key financial cities – Beijing, London, Mumbai, New York, San Francisco, São Paulo, Seoul, Shanghai, and Tokyo. Our teams enable GIC to leverage local market insights, networks, and functional expertise to invest well for Singapore. Together, we are one GIC united in our mission to preserve and enhance the international purchasing power of the reserves we manage. Our work also helps to grow enterprises and communities globally.

High-performing Talent

GIC's sustained success has been based on our ability to attract, develop, and retain high-performing talent with the right values. Beyond abilities and qualities such as innovative thinking, intellectual curiosity, and resilience, we first and foremost seek integrity.

We recruit experienced and mid-career professionals who are subject matter experts in their respective fields and can bring different perspectives to GIC. As seasoned professionals, they are expected to help enhance and add value to GIC's current investing and business capabilities while serving as effective mentors to their colleagues.

Through our GIC Professionals Programme (GPP), we recruit fresh graduates and provide them with a strong foundation through training, apprenticeship, and rotations. Through an eight-month programme, they are exposed to GIC's diverse investment businesses under the mentorship of seasoned professionals. At the end of their programme, GPP graduates are deployed to business areas suited to

their skills and interests, and embark on their careers at GIC.

Our GIC Internship Programme (GIP) offers promising undergraduates work exposure and insights to the fund management industry, and the opportunity to pursue a career with GIC. Our interns get to expand their network and learn alongside experienced professionals during the 10-week programme.

Developing Our People

In developing our people, we emphasise continued learning and a growth mindset.

As a global fund manager invested across multiple asset classes, we tap on our extensive geographical and sectoral relationships to create development opportunities for our people. These include global office postings, rotations to different business groups, and external fund manager attachments. GIC professionals who have gained experience and depth in a region or sector are given opportunities to move to other investment areas to expand their market knowledge and

We believe that effective teams are integral to GIC's long-term success.

further hone their investment skills. At relevant career stages, mobility across business functions can be facilitated to build adjacent skills or to develop leadership.

The GIC School, our dedicated Learning & Development academy, complements on-the-job training. It curates individual and team development programmes to expand the capacity of our people for sustained high performance in an ever-changing world, extending the range of functional competencies through continuous learning.

New hires go through an onboarding journey to help them assimilate well into GIC. Our Foundation Programme prepares employees at every stage of their career for the responsibilities and challenges at each level of appointment. GIC School also prepares emerging and experienced leaders to take on wider enterprise responsibilities through strengths-

based coaching and leadership programmes that amplify influence, energy, and resilience. These programmes ensure that our leaders maximise their impact on teams and develop others in the organization.

We believe that effective teams are integral to GIC's long-term success. Our People Manager programme provides skills-based training for supervisors to develop key managerial mindsets and behaviours to lead high-performing teams by enhancing coaching skills and cultivating psychological safety in an engaging and respectful team environment. Our Team Effectiveness programmes address the important roles of individual contributors to building a high-performing team climate and meaningful relationships to strengthen goal alignment and results.

Key Organizational Movements

Succession planning is done through systematic talent management to build a strong pipeline of next-generation leaders with GIC values and leadership traits.

This year, we welcome seven new Managing Directors: Mr Doe Tien Xuan, Mr Goh Chin Kiong, Mr Girish Karira, Mr Kau Yi Kang, Mr Li Yu, Mr Liang Jiajie and Ms Tan Hwee Loo.

Dr Chia Tai Tee stepped down as Chief Risk Officer on 31 March 2020, and Mr Jin Yuen Yee succeeded him. We thank Dr Chia for his significant contributions spanning more than 26 years with GIC across various functions. Mr Jin, as the Chief Risk Officer, will join the Group Executive Committee (GEC), the highest management body in GIC.

We also welcome three other new members to the GEC: Mr Choo Yong Cheen, Chief Investment Officer for Private Equity, Ms Liew Tzu Mi, Chief Investment Officer for Fixed Income, and Mr Bryan Yeo, Chief Investment Officer for Public Equities. Mr Choo, Ms Liew, and Mr Yeo will continue to serve as Chief Investment Officers for their respective asset classes while being GEC members. The following Managing Directors stepped down from GIC in the past year: Mr Kim Jun Sung, Ms Jennifer Lewis, and Mr Sun Jian Jun. We thank them for their service and contribution.

GIC leadership expectations



Our Compensation Principles

GIC's compensation policies and practices are governed by the Human Resource and Organization Committee, a committee of the GIC Board. Our framework is based on principles that enable us to attract and retain talent to meet our business needs in relevant 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 a prudent risk-taking culture, along with the right values. A portion of the remuneration for senior management staff is deferred and subject to clawback.

Leadership Accountability

Recognising the importance of leaders and their impact on GIC's culture, performance, and reputation, we have articulated 'Eight Leadership Expectations' that define the behaviours required of all our leaders and form a vital part of our evaluation.

In particular, leaders are expected to promote openness, by proactively inviting and leveraging diverse

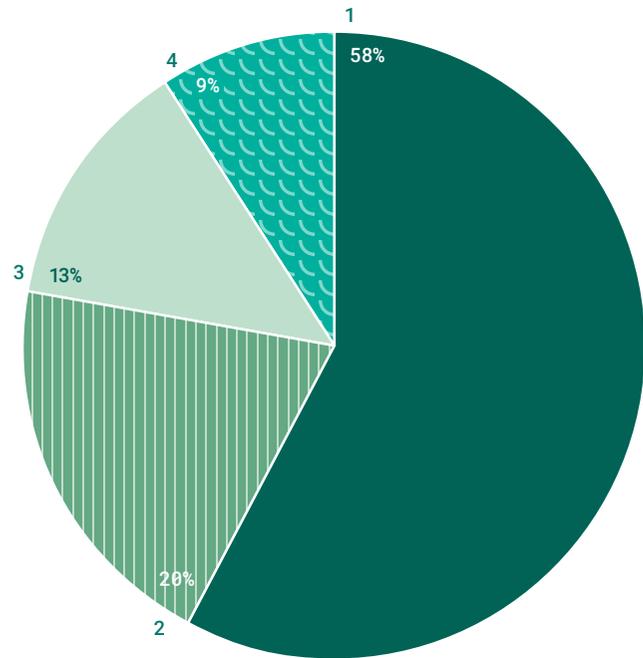
perspectives and skills, and to share with and learn from others. They must be willing to engage in robust and respectful debate, and to draw on collective insights for better decisions. These leadership traits are part of our criteria in the appointment of new Managing Directors, and also incorporated in the 360 feedback and performance assessments of our Managing Directors and Senior Vice Presidents.

Collaboration and Inclusion

Our long-term success has been driven by our ability to create an environment where everyone is enabled to contribute at their highest level. An inclusive culture, where our people share a common purpose in GIC's mission and values and a sense of belonging, brings about exceptional contribution.

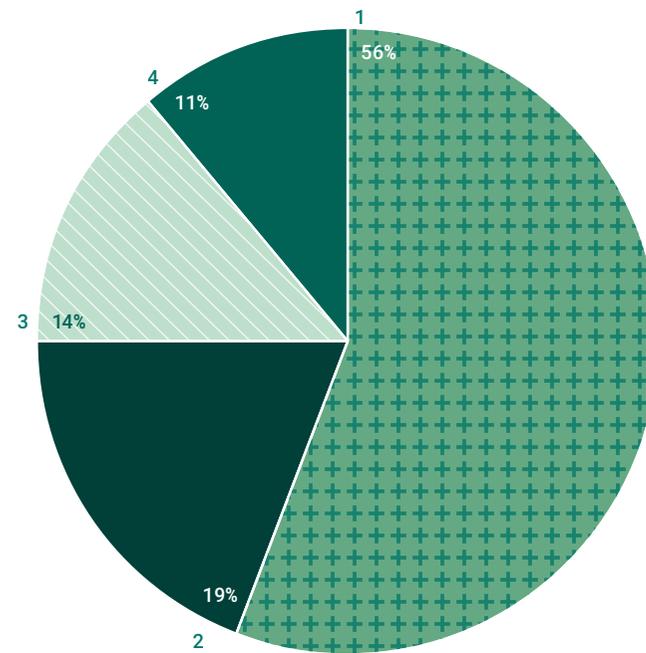
We embrace our diversity of skills and recognise that it goes hand in hand with inclusion as an organization. While we recruit and develop our people on merit to build a diverse talent pool globally, our inclusive culture promotes respect and active contribution to ensure our people collaborate effectively for results and

Where our employees come from



1		Singapore
2		Asia, Australia & Africa
3		Americas
4		Europe

Years in GIC



1		≤ 5 years
2		5 to <10 years
3		10 to <15 years
4		≥ 15 years

thrive well in overcoming challenges as a team.

We recognise that people have important roles outside of work – whether as a partner, parent or caregiver – and we need to enable them to achieve their aspirations and potential. We provide flexible work arrangements, such as telecommuting and part-time arrangements, to help our colleagues manage personal commitments while delivering to high standards at work. Our wellness programme supports employees in leading a healthy lifestyle and caters to different needs.

We are committed to providing our employees with a safe, dignified, and non-intimidating workplace, where everyone is treated with respect. Our Dignity at Work policy sets clear expectations and provides guidance on conduct towards colleagues in the workplace, and work-related settings beyond the office. Managers are expected to be role models, and ensure that inappropriate behaviours are addressed or escalated for resolution. Employees can escalate any inappropriate behaviours to their manager or to Human Resources. Matters can also be surfaced directly

to the CEO and the Chairman of the Audit Committee under our whistleblowing policy.

Making GIC a great workplace where employees are highly engaged is key in attracting and retaining our talent, and bringing out the best in them. Biannually, we invite all employees to participate in engagement surveys to provide management with a sense of the actions we can take to improve our workplace. The surveys provide insight on whether we are on the right track in cultivating drivers such as values, collaboration, career growth, and decision making. Data are analysed and progress is tracked over time to ensure actions are effective.

Building Confident Communities

Extending our long-term view on developing people beyond GIC, we are committed to developing an understanding of long-term value among Singaporeans. We focus on building confident communities in which individuals can act boldly and create a brighter future. One example is our *'Differently Abled'* initiative. GIC is a member of Singapore Network of Disability and mentorship

programmes aimed at enhancing the employability of individuals with special needs. Our employees volunteer as mentors to students with various disabilities, and we support SG Enable's internship programme for these students to be deployed as interns in GIC.

The belief of inclusion extends to our community programmes, which deliver long-term impact through a multiplier effect to build confident communities. GIC staff are encouraged to put PRIME values into action by volunteering their time and skills, and this effort also supports professional and personal development.

This year marks the fifth anniversary of *GIC Sparks and Smiles* ("*GIC Sparks*"), our leadership programme that empowers committed Singaporean youth from low-income households to make a difference to the community. *GIC Sparks* awardees receive a grant to support their studies, are trained by experienced social service professionals, engage with GIC management, and volunteer in the community. Since its launch in 2015, more than 650 students have collectively volunteered

approximately 17,000 hours to mentor disadvantaged children and youth. These activities have developed the skills, confidence, and leadership of our *GIC Sparks* awardees, while also supporting our community partners in their outreach and bringing benefit to the wider community.

The *GIC X Change* is a mentorship and volunteering programme. Like-minded GIC mentors and youth mentees come together to develop community service projects that are asset-based and build on the community's strengths. In the process, ideas are also exchanged, mentor-mentee bonds are forged, and participants gain experiences and skills that serve them in their professional and personal capacities. The aim is to achieve longer-term impact.

We also partner with The Purple Symphony, Singapore's largest inclusive orchestra, to equip persons with special needs and disadvantaged individuals with equal access to music lessons and performing opportunities. By learning and performing, our Purple Symphony Training Award recipients hone their skills and grow in confidence. GIC's support, through the award and employee volunteering

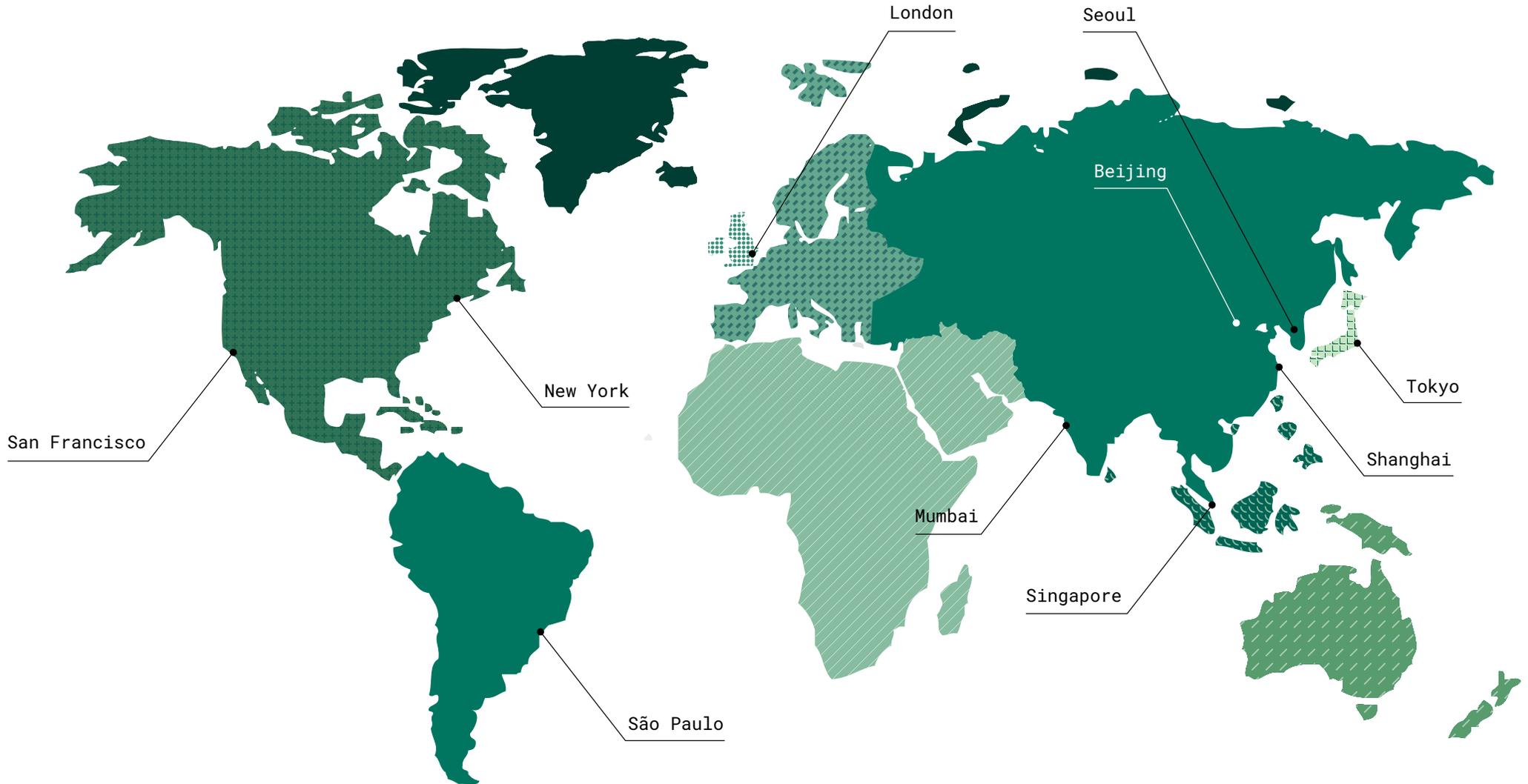
efforts, has enabled the orchestra to pursue more performances at the national level.

To increase financial literacy among youths in Singapore, we collaborate with schools and organizations through our community outreach programmes: *'Safehouse'* sessions and the *GIC Learning Journey*.

Safehouse is an experiential game of trade-offs, where players gain first-hand experience of key investing principles such as risk diversification and value-versus-price. During the *GIC Learning Journey*, participants learn about how Singapore became the first non-commodity based country to have a sovereign wealth fund, how GIC currently contributes to the Government budget, as well as our investment principles and processes.

Across our global offices, our employees engage directly with non-profits by contributing their time and expertise to their respective communities. We also collaborate with our business partners to organize community events, support research on key long-term issues, and contribute to humanitarian efforts globally.

6.2 Our Offices





www.gic.com.sg

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 [gic](https://www.linkedin.com/company/gic)