



2018 / 19

Report on the Management of the Government's Portfolio

## Who We Are

GIC's mission is to secure Singapore's financial future. We invest for the long term to preserve and enhance the international purchasing power of the reserves placed under our management. Our work contributes to the well-being of present and future generations of Singaporeans. Long-term orientation and value discipline are at the heart of our investment philosophy.

We manage a robust and diversified portfolio to generate steady real returns over a 20-year investment horizon, so as to fulfil our mission. We consider and integrate all opportunities and risks to deliver long-term value through our investment and corporate practices.

GIC employs over 1,500 people across our 10 offices worldwide. We are committed to engaging and growing our people. As an institution and as individuals, we are guided by our common values of Prudence, Respect, Integrity, Merit and Excellence to achieve the results we seek without compromising our reputation.

### The year in numbers

**3.4%** Annualised rolling  
20-year real rate of return

Over  
**1,500** Number of employees

## 2018/19 Highlights

### Performance

- GIC achieved a 20-year annualised rate of return of 3.4% above global inflation for the financial year ended 31 March 2019.
- We are prepared for the uncertainty ahead and aim to deliver sustained long-term returns on the reserves under our management, for the benefit of Singapore.

### Appointments

We welcome:

- Mr Tharman Shanmugaratnam as our Deputy Chairman on 1 May 2019.
- Mr Lawrence Wong, who was appointed to the GIC Board on 1 November 2018.
- Mr Seck Wai Kwong, who was appointed to the GIC Board on 9 November 2018.
- Mr Chan Chun Sing, who was appointed to the GIC Investment Strategies Committee on 1 October 2018.
- Mr Carsten Stendevad, who was appointed to our International Advisory Board on 1 October 2018.

### Outlook

- In view of the high valuations, slowing global growth, and significant uncertainties, we maintain our cautious portfolio stance.
- Our diversified portfolio, disciplined investment approach, and flexible capabilities leave us well-placed to invest in this challenging environment. Our teams will also continue to search for compelling idiosyncratic opportunities, and stand ready to take advantage of potential dislocations.

# 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.



## 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.



## 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 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.



## 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.



## 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.



## 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.

# The GIC Way

The GIC Way is a set of principles that defines the way we think and act. It sharpens our focus on our Client, our commitment to our people and future.



## Client First

- When our Client does well, we do well
- Never compromise our PRIME values and reputation; not even for better returns
- Always follow GIC's investment principles:
  - ▶ Pursue intrinsic value and maintain price discipline
  - ▶ Practise long-term investing
  - ▶ Pick our spots: be focused and leverage our strengths
  - ▶ Pay attention to risk control
  - ▶ Prepare for the future



## People – The Key

- Do what's right, not what's easy
- Help GIC make the best decisions – speak up if you have a different view
- Attract exceptional people and develop them to their full potential
- Embolden innovation and encourage learning
- Reward what matters: contribution; not pedigree, age, gender or nationality
- Excel in what you do; make a difference
- Empower decision-making at every level
- Work seamlessly across boundaries and hierarchy – OneGIC



## Future Now

- Tomorrow is determined today
- Build leadership and resources for the future
- Insist on nimble and responsive structures and processes

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# Overview from the Chief Executive Officer

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**LIM CHOW KIAT**  
Chief Executive Officer, GIC

GIC's mission is to preserve and enhance the international purchasing power of the reserves under our management over the long term. These reserves are important to Singapore as a rainy day fund, an endowment fund, and a stability fund.

For the year ended 31 March 2019, we achieved a 20-year annualised rate of return of 3.4% above global inflation. Our 20-year portfolio volatility remained relatively low at 8.9%.

## The Investment Environment and Strategy

While the start of the last fiscal year saw financial markets pricing in a “synchronised global recovery”, we are back in an environment of “lower for longer”. Financial markets are focused on the US Fed's next move in its monetary policy, trade tensions between major powers, and growing political polarisation. We are observing high risk asset valuations that mask weak market fundamentals and growing economic uncertainties. The investment landscape today continues to point to low and volatile returns in the future.

Growth forecasts were revised sharply downwards last year and markets correspondingly sold off. Policymakers across major economies shifted to more accommodative policies, after which markets once again priced in a “lower for longer” path for future interest rates, and markets recovered. While this policy shift is expected to remove the downside risk of over-tightening, its impact is expected to be limited. We expect global growth to remain subdued.

Political and policy uncertainties remain high, as ongoing trade tensions between the US and China, continuing fragmentation in Europe and the long-drawn Brexit process continue to weigh on business sentiment. This has discouraged businesses from undertaking

longer-term capital expenditures, which has in turn contributed to weak global growth. Should the policy uncertainty lead to a deeper economic slowdown, major markets such as Europe and Japan would have little policy ammunition to respond and are therefore likely to experience a more protracted downturn. Emerging markets on the whole have more policy room to cushion against a global slowdown, though economies with larger imbalances and vulnerabilities could be exceptions. In short, policymakers' scope to counter an inevitable downturn is limited. With high asset valuations and low interest rates, the case for investor caution remains strong.

Beyond the current cycle, structural tensions around rising income inequality, populism, and job displacements by technology are likely to remain. As policymakers around the world grapple with these challenges, it is imperative to preserve the system of open and integrated economies that has improved the lives of so many.

Notwithstanding current trade tensions, Asia remains a constellation of dynamic, open economies with some of the highest growth rates globally. We first invested in the region in the 1980s, and are today among the largest institutional investors in Asia. In the long term, we expect the region's economic growth to remain strong and outstrip other regions. There are many compelling reasons to believe this: from the liberalisation of its markets, the innovative,

driven spirit of its people, and its demographic profile. We discuss these in greater detail in our feature article, *Asia's Growing Importance in the Global Economy and Financial Markets*.

## Building Collaborative Partnerships and Internal Capabilities

GIC's primary mission remains to preserve and enhance the long-term international purchasing power of the reserves placed under our management. As we face a low growth and increasingly uncertain world, we will rely even more on our long-term investment approach and global network of partnerships. Beyond taking advantage of any dislocations in the investment environment, we seek to work with our partners on creating new opportunities.

As a global investor, GIC looks to enhance existing ties and forge new relationships with partners worldwide. In October last year, we held our annual GIC Insights Forum in Beijing, in conjunction with our 20th anniversary in China, bringing together eminent thought leaders, business executives, and our partners. In March this year, we celebrated with 130 of our Latin American partners the fifth anniversary of our Brazil office, having invested in Latin America for two decades. More recently in April, we held our second Bridge Forum in San Francisco, co-organised by the Singapore Economic

Development Board, bringing together Silicon Valley's leading investors and start-ups with our partners in Asia to look at disruption in the financial services sector.

## Senior Leadership Appointments and Renewals

On 1 July 2019, we welcomed new appointments. Mr Tay Lim Hock succeeded Mr Goh Kok Huat as Chief Operating Officer, concurrent to his appointment as Deputy Group Chief Investment Officer. Mr Tay will further integrate operations, infrastructure and technology to deliver ongoing business services and longer term capabilities. Mr Arjun Gupta was appointed President (Europe) to continue to strengthen GIC's platform in Europe by extending our business networks with partners, regulators and policymakers. Dr Leslie Teo was succeeded by Mr Kevin Bong as Director, Economics & Investment Strategy, and by Dr Prakash Kannan as Chief Economist.

I would like to express deep gratitude to Mr Goh Kok Huat and Dr Leslie Teo for their contributions to GIC, and for laying the groundwork for our future. I have had the privilege of working alongside them for more than a decade, during which GIC's capabilities were much strengthened. On behalf of all in GIC, I extend my appreciation to them for their many years of dedicated service.

In conclusion, GIC will continue to invest in our people, capabilities and networks. We abide by a core investment principle – to “prepare, not predict” – in today's uncertain investment environment. This will help us to deliver sustained long-term returns on the reserves under our management, for the benefit of Singapore.



**LIM CHOW KIAT**  
Chief Executive Officer

# Welcome



## Tharman Shanmugaratnam

Mr Tharman Shanmugaratnam was appointed as our Deputy Chairman on 1 May 2019. Mr Tharman is Senior Minister and Co-ordinating Minister for Social Policies, and continues to chair the GIC Investment Strategies Committee.



## Lawrence Wong

Mr Lawrence Wong was appointed to the GIC Board on 1 November 2018. Mr Wong is Minister for National Development and the Second Minister for Finance. He has been a member of the GIC Investment Strategies Committee since August 2017.



## Seck Wai Kwong

Mr Seck Wai Kwong was appointed to the GIC Board on 9 November 2018. Mr Seck is Chief Executive Officer of Eastspring Investments. He is also on the GIC Risk Committee.



## Chan Chun Sing

Mr Chan Chun Sing was appointed to the GIC Investment Strategies Committee on 1 October 2018. Mr Chan is Minister for Trade and Industry, and Minister-in-charge of the Public Service.



## Carsten Stendevad

Mr Carsten Stendevad was appointed to our International Advisory Board on 1 October 2018. Mr Stendevad is Senior Fellow at Bridgewater Associates and former Chief Executive Officer of Arbejdsmarkedets Tillægspension (ATP).

# Thank You

It has been our privilege to have benefitted from the experience and expertise of **Mr Knut Kjær**, who stepped down after his active service on the GIC Investment Strategies Committee for six years in November 2018. We also thank **Mr Mark Kritzman**, who stepped down from the GIC Investment Strategies Committee and Risk Committee in May 2019.

## Senior Leadership Appointments and Renewals

On 1 July 2019, we welcomed new appointments:

- **Mr Tay Lim Hock** as Chief Operating Officer
- **Mr Arjun Gupta** as President (Europe), based in London
- **Mr Kevin Bong** as Director, Economics & Investment Strategy
- **Dr Prakash Kannan** as Chief Economist, while retaining his current role as Head, Total Portfolio Management, Economics & Investment Strategy

For their years of dedicated service, we thank:

- **Mr Goh Kok Huat**, who retired as Chief Operating Officer
- **Dr Leslie Teo**, who retired as Chief Economist and Director, Economics & Investment Strategy

# Investment Report

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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 its management.

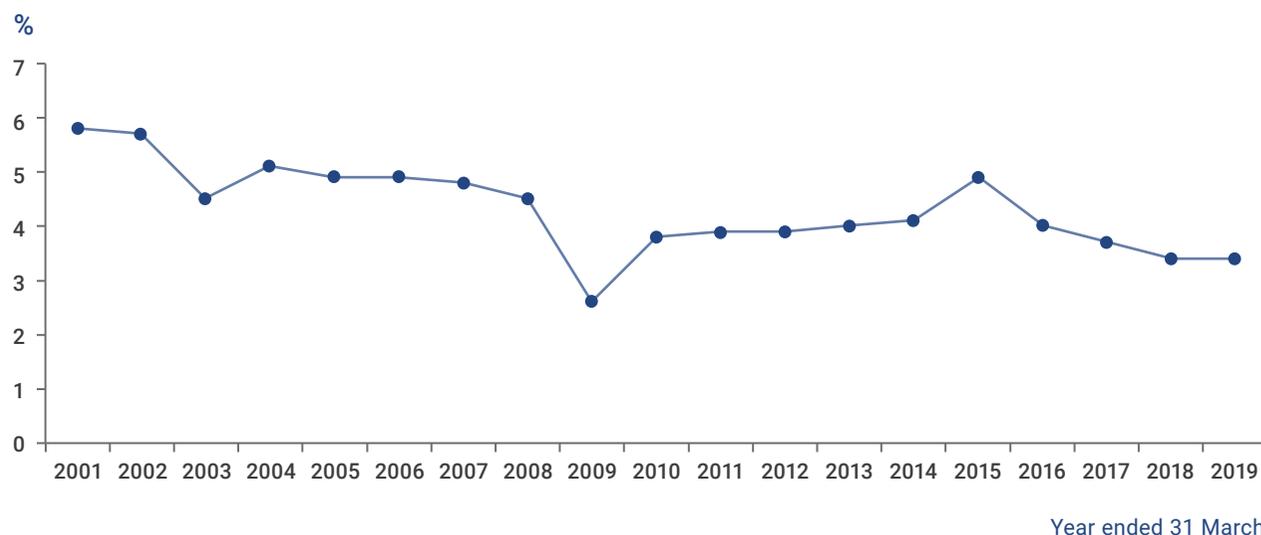
## Long-term Investment Performance

GIC's mandate 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. GIC's goal is to beat global inflation, and preserve and enhance the international purchasing power of the reserves placed under its management.

Investment returns in global markets are inherently cyclical and volatile even over 20-year periods. For example, the rolling 20-year real return for a US 65% equities and 35% bonds portfolio went below 2% in the 1980s, but reached as high as 10% in 2000.

Over the 20-year period that ended 31 March 2019, the GIC Portfolio generated an annualised real<sup>1</sup> return of 3.4% (see Figure 1). In the last three years, GIC's 20-year rolling real return has been below 4%. This was essentially due to the exceptionally high returns of the tech bubble period in the late 1990s dropping out of the 20-year window, while the post bubble declines remained (see next page). We expect this one-off effect, coupled with the continuing environment of low returns, to weigh on the rolling 20-year return over the medium term.

Figure 1: Annualised Rolling 20-Year Real Rate of Return of the GIC Portfolio since 2001<sup>2</sup>



<sup>1</sup> An annualised real return is the return adjusted for global inflation. The real return number is independent of the currency used to compute it.

<sup>2</sup> The first 20-year period since GIC's inception in 1981 ended in March 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. It is a rolling return, which means that last year's 20-year return spans the period 1999 to 2018, this year's 20-year return spans 2000 to 2019, and next year's return will span 2001 to 2020. For each new year added, the earliest year is dropped out of the computation window. The change in a multi-year period annualised rolling return from year to year 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**



GIC's long-term performance is largely driven by the dynamics of the global economy and our asset allocation strategy as reflected in the Policy Portfolio. This is complemented by the performance of skill-based strategies undertaken by active strategy investment teams, seeking to add returns above market benchmarks. In aggregate, we strive to achieve the best possible long-term returns for the GIC Portfolio across a variety of economic scenarios, within the risk parameters set by the Client. Our long-term focus is elaborated in *Investment Approach* (see next page) and in the chapter on *Managing the Portfolio*.

## Investment Approach

GIC's long-term investment approach has a few key features. We generate returns from exposure to systematic risk factors, such as the equity risk premium. We invest in illiquid asset classes such as private equity and real estate which offer the prospect of better returns. Exposure to these risk premia enables GIC to harness the power of compounding over time.

In addition, GIC focuses on long-term fundamentals and value rather than on short-term market price gyrations. This reduces the chances of overpaying at market tops or underinvesting at market bottoms. Long-term investing is not a rigid buy-and-hold approach. As a long-term investor, GIC seeks to distinguish price from value. If an asset's price exceeds its long-term fundamental value, we would tend to sell, and vice versa, even if doing so goes against current market sentiment.

*GIC focuses on long-term fundamentals and value rather than on short-term market price gyrations.*

## Portfolio Distribution and Intermediate Performance Markers

### The GIC Portfolio

The GIC Portfolio is a well-diversified portfolio of asset classes. Each asset class carries a different risk-return profile. The aim of the Portfolio is to have the right mix of growth assets such as equities which generate higher returns but are riskier, and defensive assets such as sovereign bonds which offer lower returns but help protect the portfolio in market downturns. As the future is uncertain, the GIC Portfolio is constructed to be resilient across a broad range of plausible market and economic conditions, while generating positive long-term real returns.

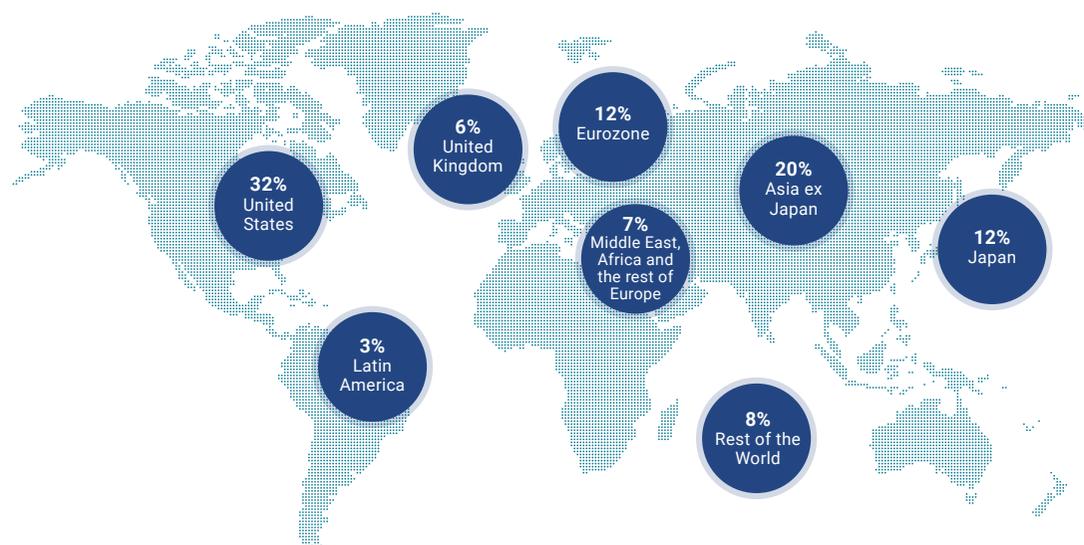
Table 1 and Figure 3 show the asset mix and geographical distribution of the GIC Portfolio as of 31 March 2019.

Table 1: Asset Mix of the GIC Portfolio

| Asset Mix                 | 31 March 2019 (%) | 31 March 2018 (%) |
|---------------------------|-------------------|-------------------|
| Developed Market Equities | 19                | 23                |
| Emerging Market Equities  | 18                | 17                |
| Nominal Bonds and Cash    | 39                | 37                |
| Inflation-linked Bonds    | 5                 | 5                 |
| Real Estate               | 7                 | 7                 |
| Private Equity            | 12                | 11                |
| <b>Total</b>              | <b>100</b>        | <b>100</b>        |

While the GIC Portfolio's asset allocation is constructed to achieve an appropriate long-term balance of risk and return, the geographical distribution of the portfolio is fluid and depends primarily on market capacity, economic cycles and investment opportunities.

Figure 3: Geographical Distribution of the GIC Portfolio



## 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 intermediate investment performance. Table 2 shows the **nominal USD returns** over 20 years<sup>3</sup>, 10 years and 5 years and the corresponding portfolio volatility.

**Table 2: Nominal Annualised Return and Volatility of the GIC Portfolio**  
(in USD, for periods ending 31 March 2019)

| GIC Portfolio |                             |                         |
|---------------|-----------------------------|-------------------------|
| Time Period   | Nominal Return <sup>4</sup> | Volatility <sup>5</sup> |
| 20-Year       | 5.5%                        | 8.9%                    |
| 10-Year       | 8.6%                        | 8.4%                    |
| 5-Year        | 4.9%                        | 6.2%                    |

The GIC Portfolio's 20-year real return was 3.4% per annum, or 5.5% in nominal USD terms. Over the 10-year period ending March 2019, the GIC Portfolio returned 8.6% per annum in nominal USD terms. These unusually high returns do not reflect the underlying potential of global markets. In particular, the 10-year period included the sharp recovery of the stock markets from the 2009 trough of the Global Financial Crisis. The strong performance of the asset markets over the decade also reflected the unprecedented reductions in interest rates and boost to liquidity globally.

Over the 5-year period, the GIC Portfolio return was 4.9% per annum in nominal USD terms. While the upturn in the global economy and supportive monetary policies helped to push up market valuations, concerns of a slowdown and tightening in liquidity globally drove periodic market corrections.

<sup>3</sup> GIC's primary metric is the rolling 20-year real rate of return, which we described earlier in this chapter.

<sup>4</sup> 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.

<sup>5</sup> 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 bonds<sup>6</sup>. The Reference Portfolio is not a performance benchmark for the GIC Portfolio. Rather, it characterises the risk the Client is prepared for GIC to take in generating long-term investment returns. GIC may occasionally lower its risk exposure, in times of exceptional market exuberance. Conversely, GIC may increase its risk exposure when the opportunity arises. This is part of a disciplined, professional approach to long-term value investing. For example, in the last few years, GIC took steps to lower the risk in the portfolio by reducing its allocation to developed market equities given high asset valuations amidst an increasingly uncertain market outlook (see section on *Investing in an uncertain and lower return environment*).

Table 3 shows the **nominal USD returns** over 20 years, 10 years and 5 years and the corresponding volatility for the Reference Portfolio. The figures do not include adjustments for costs that would be incurred when investing.

**Table 3: Nominal Annualised Return and Volatility of the Reference Portfolio (in USD, for periods ending 31 March 2019)**

| Reference Portfolio |                             |                         |
|---------------------|-----------------------------|-------------------------|
| Time Period         | Nominal Return <sup>7</sup> | Volatility <sup>8</sup> |
| 20-Year             | 5.2%                        | 10.6%                   |
| 10-Year             | 9.3%                        | 9.9%                    |
| 5-Year              | 5.0%                        | 7.7%                    |

Over the three time periods, the GIC Portfolio has lower volatility than the Reference Portfolio due to its diversified asset composition. Despite its lower risk exposure than the Reference Portfolio, the GIC Portfolio has performed creditably over a 20-year period.

<sup>6</sup> The Reference Portfolio was adopted from 1 April 2013, and reflects the risk that the Government is prepared for GIC to take in its long-term investment strategies. It comprises 65% global equities and 35% global bonds. For more details, please refer to the chapter on *Managing the Portfolio*.

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

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

## Investing in an Uncertain and Lower Return Environment

The investment climate remains challenging over the next few years. High valuations, slowing global growth and significant uncertainties portend lower returns for both the GIC Portfolio and the Reference Portfolio. GIC maintains its cautious portfolio stance.

Despite the increase in market volatility in 2018, market valuations remain elevated across most risk assets. Valuation metrics for the US equity markets and high yield credit continue to be well above historical averages. Global transaction volumes in private markets have exceeded previous peaks and valuations have been driven higher.

Developed markets are now closer to late cycle, particularly in the US, with economic and corporate earnings indicators showing signs of slowing. Further, financial vulnerabilities are growing due to high corporate and non-bank leverage, poorer credit quality and untested liquidity risks. We also expect growth in China to moderate amidst weaker labour force growth and ongoing efforts to reduce the build-up in debt while managing trade tensions with the US. Notwithstanding this, the Fed's move to delay further rate rises and China's fiscal stimulus efforts could provide some growth support in the near term.

Over the longer term, market returns are projected to be well below what we experienced since the 1980s. Interest rates are low and current equity market valuations are elevated. The fundamental economic and earnings growth outlook is also expected to be modest due to structural headwinds from demographics, elevated debt, slower rate of globalisation and lower productivity growth. There is limited evidence of structural reforms to counter these trends. Further, the tensions that we highlighted in previous years – around inequality, populism, geopolitical conflicts and the potential impact of disruptive technologies – are likely to persist.

Given the highly uncertain and muted outlook, we will maintain strong price discipline, by not overpaying for assets, and reducing exposure when the risk-reward trade-off is less favourable. We will continue our efforts to strengthen our networks, build capabilities and seek attractive alpha generating opportunities. Our established presence across most asset classes in the emerging markets is also expected to benefit from structural improvement and contribute positively to our longer-term performance.

Overall, our diversified portfolio, disciplined investment approach and flexible capabilities leave us well-placed to invest in this challenging environment. Our teams will also continue to search for compelling idiosyncratic opportunities, and stand ready to take advantage of potential dislocations.

# Managing the Portfolio

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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.

## Our Portfolio and How We Manage It

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.

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.

To this end, we established an investment framework that equips GIC for an increasingly challenging and complex investment environment. Adopted in 2013, the framework leverages GIC's strengths, including our ability to invest for the long term, flexible capital and governance structure.



## 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.

The 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 “alpha” to the Policy Portfolio through skill-based, active strategies while preserving the exposure to the systematic market risks. The *Policy Portfolio* and *Active Portfolio* together form the *GIC Portfolio*.

### Policy Portfolio: Key Investment Driver

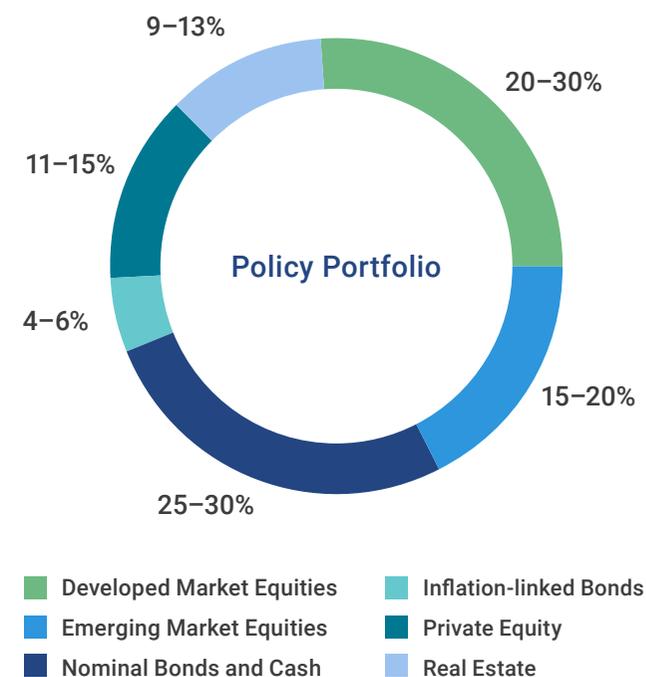
The Policy Portfolio represents GIC’s asset allocation strategy over the long term. It accounts for the bulk of the risk and return potential of the GIC Portfolio. The Policy Portfolio seeks to balance the way different asset classes respond to varied possible economic environments.

The Policy Portfolio comprises six asset classes: Developed Market Equities, Emerging Market Equities, Nominal Bonds and Cash, Inflation-linked Bonds, Private Equity and Real Estate.

Through the diversity of asset classes, the Policy Portfolio is expected to generate good risk-adjusted returns over a 20-year period.

The Policy Portfolio has a long-term investment horizon and is not intended to be adjusted frequently or in response to market cycles. GIC’s approach to rebalancing our portfolio 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 investors to sell.

Conversely, when equities do very poorly, such as after the bursting of an economic bubble, rebalancing calls for acquiring assets that have decreased in price. Nevertheless, GIC does occasionally adjust its asset allocation over the medium term when there are fundamental changes in the global investment environment, such as structural shifts in the risk and return profile of a particular asset class or geographical region.



*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.*

### **Active Portfolio: Skill-based Strategies**

The Active Portfolio comprises a group of investment strategies in which managers add value to the Policy Portfolio, while broadly maintaining the same level of systematic risk.

Alpha is the additional return achieved by active strategies as compared to the Policy Portfolio, while beta comprises market returns. At GIC, active alpha strategies are separated from beta activities to better manage our return and risk drivers. Our beta activities seek to achieve a diversified mix of asset classes through careful portfolio construction which considers the response of various asset classes to different possible economic environments. Our alpha activities aim to earn returns from GIC's skills and competitive advantages.

Each active strategy must generate a return above its cost of capital and is funded through the sale of an asset class or combination of asset classes in the Policy Portfolio with a similar overall risk profile. For example, active strategies designed to outperform public equities are funded from 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 which GIC Management can use for its alpha strategies. These strategies are stress-tested to 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. GIC Management employs risk budgeting to allocate risk to different strategies.

### **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, but embody lower risk and protect the portfolio in market downturns.

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:

1. **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.
2. **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.

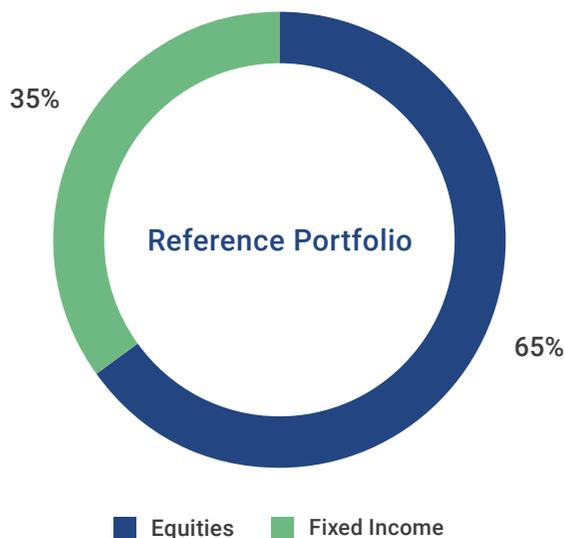
3. **Disciplined and judicious portfolio management** – It is important to ensure that ongoing management of investment portfolios is disciplined and based on good analysis and judgment. The GIC Portfolio is rebalanced regularly to preserve the intended asset class mix. Actively-managed portfolios are reviewed regularly in light of changing market conditions and developments in our active management capabilities.

All these principles are the basis upon which we allocate capital in GIC's Policy Portfolio which represents our strategic asset allocation, and in our Active Portfolio and its actively-managed strategies.

## Reference Portfolio: Characterising the Client’s Risk Preference

The Client owns the funds that GIC manages, and decides on the overall risk preference, which is characterised by a Portfolio made up of 65% global equities and 35% global bonds (“65:35”). The Reference Portfolio is not a benchmark, but an expression of the overall risk that the Client is prepared for the GIC Portfolio. The 65:35 Portfolio reflects a reasonable trade-off of risk and return. Historically, it has delivered good compounded long-term returns despite periodic drawdowns.

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. On occasion, there may be a difference between the risk exposure of GIC and the Reference Portfolio. GIC may adjust its risk exposure, in times of market exuberance or when the opportunity arises. This is part of a disciplined, professional approach to long-term value investing.



*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.*

## 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 which is designed to deliver good, long-term returns. GIC Management 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 (IB) provides an independent layer of oversight on GIC’s active investment management and process. IB members come from the private sector and may not necessarily be GIC Board Directors. Together, they offer extensive experiences in various types of investments across geographies. The IB ensures that GIC invests in a sound and disciplined manner. Additionally, the IB ensures that GIC takes into account potential reputational risks arising from investment activities.

In its totality, our investment framework leverages GIC’s strengths. These include our long-term investment horizon; capabilities in both public and private markets and to use these capabilities to develop cross-asset investment

opportunities; presence in major financial cities; and a governance structure that clearly lays out the responsibilities of the GIC Board and Management.

The following table summarises the responsibilities within GIC under the investment framework.

|  | Responsibility  |
|--|---|
| <b>GIC Board</b>                       | <ul style="list-style-type: none"> <li>Approves the Policy Portfolio and active risk budget</li> </ul>  |
| <b>Investment Strategies Committee</b> | <ul style="list-style-type: none"> <li>Reviews GIC Management’s recommendations on the Policy Portfolio and active risk budget</li> </ul>   |
| <b>Investment Board</b>                | <ul style="list-style-type: none"> <li>Oversees GIC Management’s active strategies and large investments</li> <li>Ensures GIC does not take on undue reputational risk in pursuit of returns</li> </ul>                             |
| <b>GIC Management</b>                  | <ul style="list-style-type: none"> <li>Recommends the Policy Portfolio and constructs the Active Portfolio</li> <li>Adds value through the Active Portfolio within the risk tolerance in GIC’s mandate set by the Client</li> </ul> |
| <b>Investment Teams</b>                | <ul style="list-style-type: none"> <li>Implement the Policy Portfolio and conduct active strategies</li> </ul>  |

## Investment Process

As a disciplined long-term value investor, we take a systematic, patient and diversified approach in seeking investment opportunities, where there is a clear difference between the current price and intrinsic value of an asset.

GIC's investing approach is underpinned by our discipline to distinguish price from value. An asset's price is driven largely by market sentiments, while its value is its fundamental worth. Anchored by this perspective, we seek to appraise value appropriately and adhere to price discipline, even when it sometimes means going against prevailing market sentiments.

To determine where true fundamental value lies, we identify and assess drivers of long-term value as a core part of our investment process. This approach comprises top-down and bottom-up analyses for all investments. 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 asset classes in 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 analysis 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.

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, as exemplified by our participation in initiatives such as Focusing Capital on the Long Term Global and the International Forum of Sovereign Wealth Funds.

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

## Investing Sustainably

It is our belief that companies with good sustainability practices are likely to generate strong investment returns over the long term, on a risk-adjusted basis. Our approach hence integrates sustainability considerations into our investment and corporate processes.

### Taking a long-term perspective

GIC invests to preserve and enhance the long-term value of our total portfolio. Sustainable long-term investing requires holistic assessment of risks and returns. Corporate practices in the areas of environment, social and governance (ESG) have generally impacted long-term value, and are therefore an important consideration in our investment decision process.

### Establishing a robust sustainability process

GIC's assessment of a company's value includes an evaluation of the sustainability practices of the company and their potential impact on its value. We embed such considerations into the investment process, by including sustainability factors in investment analysis, due diligence and risk assessment. Additional due diligence is conducted on companies with greater exposure to sustainability issues.

### Responsible stewardship

We are guided by sound stewardship principles to promote sound corporate governance and sustainable business practices. We engage with portfolio companies on sustainability and exercise our voting rights in a responsible manner. Our voting choices are informed by a set of global principles and policies, while being sensitive to local differences. Our votes reflect our long-term view and sustainability beliefs.

# 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 to preserve and enhance long-term investment value and protect the financial interests of our Client.

| Asset Allocation  |  |
|---|--|
| Constructs long-term portfolio policy, undertakes medium-term asset allocation, as well as innovates alternative investment models  |  |
| Public Markets  | Private Markets  |
| Public Equities<br>Fixed Income<br>Portfolio Execution Group<br>External Fund Managers  | Private Equity<br>Infrastructure<br>Real Estate<br>External Fund Managers  |
| Invests across developed and emerging markets in equities and fixed income, constructing a diversified portfolio to produce sustainable, risk-adjusted performance                          | Invests in opportunities with 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 and less conventional investment opportunities, develops thematic investment strategies and actively expands our network of relationships beyond traditional domains |  |
| Investment Services   |  |
| Supports public and private market investment activities  |  |

### Investment Groups in Public and Private Markets

GIC invests in both public and private markets. In public markets, we invest in public equities in both developed and emerging markets, absolute return strategies (hedge funds), fixed income and cash. We manage a diversified portfolio to produce good risk-adjusted performance. In private markets, we invest in opportunities that have the potential to generate high long-term real returns and the ability to diversify the portfolio. Real estate 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, organised 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 organised along three areas: Global Macro, Global Credit and Cross-asset Systematic investing. We invest across the entire fixed income spectrum which includes government bonds, emerging market bonds, corporate bonds and loans, convertible bonds, hybrid securities, securitized products, structured credit and global currencies. Our multi-asset macro and systematic strategies also invest in asset classes such as equities and commodities.

#### Private Equity Group

GIC's 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 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.

#### 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.

#### Infrastructure Group

GIC Infrastructure Group takes a multi-pronged approach to investing. We invest directly in private equity that operate 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. The group also invests in infrastructure funds, non-investment grade infrastructure debt and structured investments in listed infrastructure companies.

### Integrated Strategies Group

Integrated Strategies Group (ISG) focuses on cross-asset 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 Fund Managers

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

### 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 organised 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. This includes support for deal closing, investment and data operations, investment reporting, management reporting, portfolio accounting, valuation and financing.

## Managing Risks

Investing involves prudent risk-taking. Identifying and managing risk is therefore a core responsibility of all 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 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 well-understood.
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 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 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.

#### 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.

#### 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.

#### The Third Line: Internal Audit

Our Internal Audit Department (IAD) forms the third line of defence. It provides an independent assessment and assurance on the adequacy and effectiveness of our internal risk management controls. It reports functionally to the Chairperson of the Audit Committee, and administratively to the CEO.



## Risk Management Approach

Our approach to risk management is multi-pronged:

- 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.

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

| 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 well-understood.  |                  |   |                   |
|  | 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       |

### Managing Portfolio Investment Risk

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

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, with 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.

### Managing Cyber Security, Technology and Information Risk

As GIC adopts advanced information technologies (IT), we recognise the importance of having strong cyber security defences and robust internal controls for our operating environment. A dedicated team of cyber security and IT risk management professionals maintains our cyber defence capabilities, as well as oversees technology operations and usage 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 for the long term 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.

People are at the heart of our business. Our PRIME values are the compass in the management of our people, processes and portfolio. Assessment of these values is included in our staff appraisals.

# Feature Article:

## *Asia's Growing Importance in the Global Economy and Financial Markets*

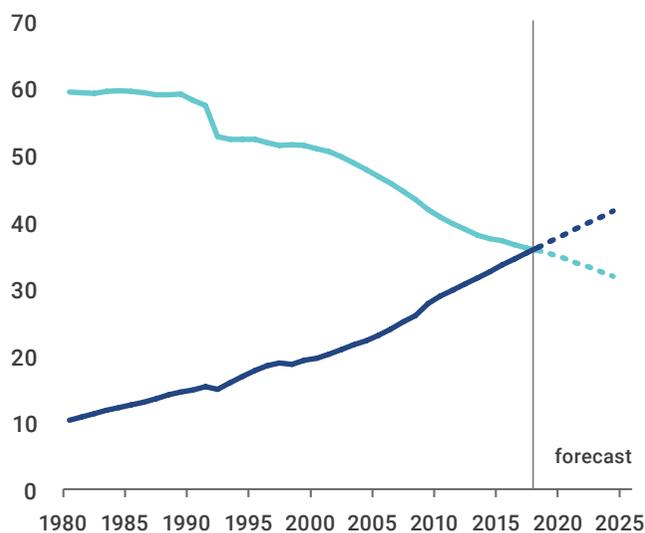
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GIC has been committed to Asia's growth story for several decades. We continue to take a constructive view on Asia's long-term future. The region's share of the global economy has more than doubled over the past 40 years, and its financial markets have developed significantly. While this has rested significantly on export growth in an increasingly globalised world, it has also been driven by underlying improvements in institutions and macroeconomic policies, together with growing regional integration and innovation. However, reforms in Asia have been uneven, and risks to stability remain, arising from both geopolitical tensions as well as domestic factors. We believe Asia's governments, businesses, and people have the resolve and ability to tackle these challenges and deliver on the region's promise.

## A Growing Global Economic and Financial Footprint

Asia's economic footprint, in particular Emerging Asia's, has been growing significantly. Excluding Japan, the region's share<sup>1</sup> of global Gross Domestic Product (GDP) rose from around 10% in 1980 to 36% today (Figure 1). Asia already hosts some of the world's largest economies, notably China, now the largest economy and financial market after the United States. Asia's growth rate is also outstripping that of other regions, accounting for approximately half of global growth last year (Figure 2).

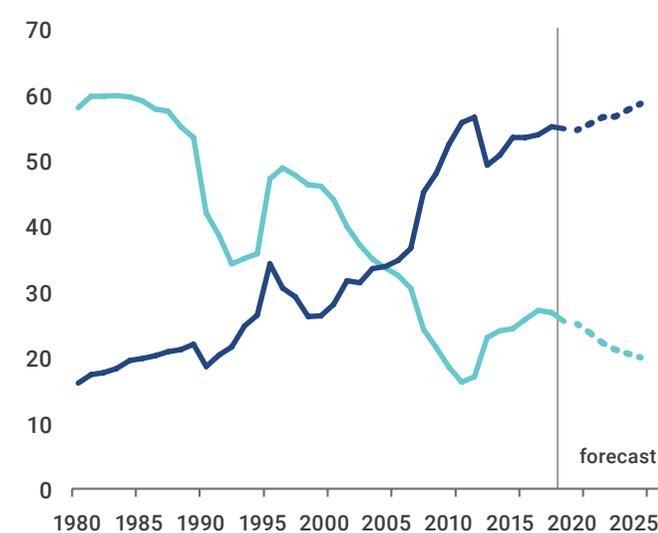
Figure 1: Asia's share of global economy in purchasing power parity (PPP) terms



Source: IMF

— Emerging & Developing Asia, Korea, Hong Kong, Taiwan  
 — USA, Japan, EU

Figure 2: Asia's contribution to global growth



Source: IMF

— Emerging & Developing Asia, Korea, Hong Kong, Taiwan  
 — USA, Japan, EU

<sup>1</sup> The IMF defines Emerging and Developing Asia as Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Fiji, India, Indonesia, Kiribati, Lao P.D.R., Malaysia, Maldives, Marshall Islands, Micronesia, Mongolia, Myanmar, Nauru, Nepal, Palau, Papua New Guinea, Philippines, Samoa, Solomon Islands, Sri Lanka, Thailand, Timor-Leste, Tonga, Tuvalu, Vanuatu and Vietnam.

At the same time, the nature of growth in the region has also been changing. While exports to the rest of the world remain a key driver, Asian economies increasingly rely on domestic and regional sources of growth due to increased supply-chain, trade, and financial market integration.

Change has also been taking place in Asia's financial markets. In response to the rapid rise of Asian economies, its equity, bond and foreign exchange markets have grown, notably in Emerging Asia. The region's equity markets command close to 40% of global market capitalisation today (Figure 3). The development of local currency bond markets (Figure 4) in the region has not only increased the scope of investible assets in the region, but also fostered stability by reducing the currency mismatch that was a problem for many Asian economies in the past.

The region has learnt valuable lessons from the Asian Financial Crisis in the late 1990s. The result is more credible monetary and fiscal policies, improved financial sector regulation and supervision, and a shift from fixed or heavily managed currencies to more flexible exchange rates. Private and public sector balance sheets strengthened, national savings increased, and most Asian countries built up significant foreign exchange reserve buffers against external shocks.

Figure 3: Share of global equity markets

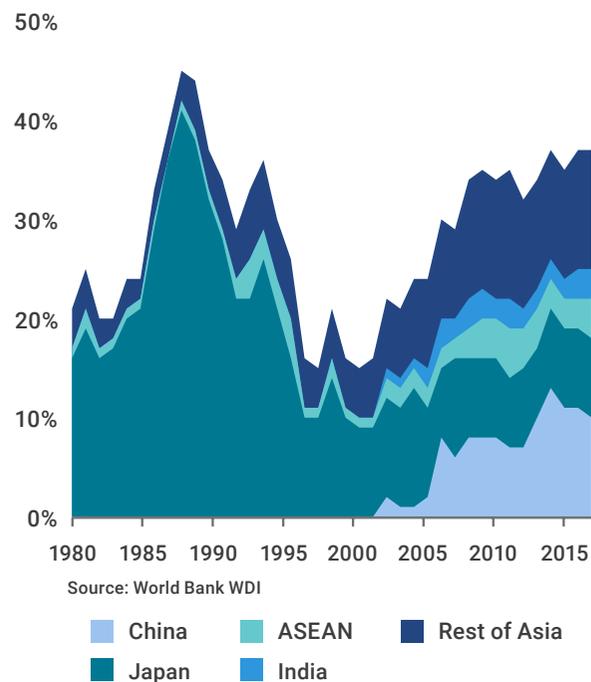
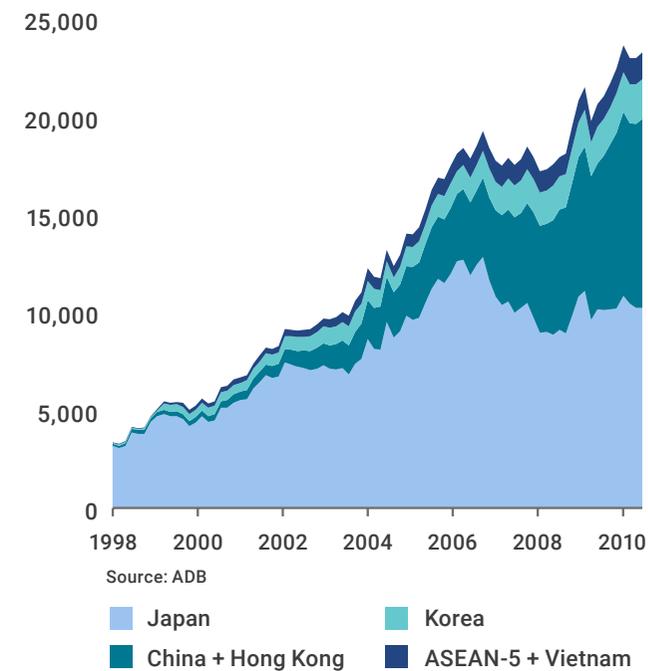


Figure 4: Sovereign and corporate bond market (USD Billions)



## Will Asia's Rise Continue?

Asia is made up of economies at very different stages of development: very advanced economies like Japan, large emerging economies such as China and India, and other emerging economies which still have huge catch-up potential.

Despite the heterogeneity, three broad factors have driven Asia's growth, which we believe will persist – its attitudes to globalisation and openness, improvement in its institutions, and the dynamism of its people:

- Asia's growth path has been characterised by continual lowering of trade and investment barriers. With opening up, many countries have benefitted from technological catch-up.
- Asia has also had progressive reforms in its institutions. This is reflected in the improved business environment rankings for many countries in the region. For instance, the World Bank's 2019 "Ease of Doing Business" report ranked 5 Asian economies in the top 15 (out of 190), with big economies like China and India climbing 50 spots or more over the last 5 years.
- The region's people and businesses are driven and adaptable to change. Educational attainment has improved markedly. Some Asian countries also enjoy a demographic dividend.

While the region's future growth may be slower as economies mature and populations age, it will still in aggregate likely outpace that of developed and emerging economies outside of Asia.

We believe three themes will underpin Asia's potential.

First, there continues to be room for urbanisation and middle class growth in the emerging economies. The share of Emerging Asia's population living in urban areas has risen to about 50%, which is still well below that of high-income countries at over 80%<sup>2</sup>. The middle class has also grown rapidly in Asia, and is predicted<sup>3</sup> to more than double over the next 10 to 15 years, driven by countries such as China, India, Indonesia, and the Philippines.

A second driver is continued investments in infrastructure and human capital. While the region has made much progress on this front, there is room to do more in Emerging Asia, where the infrastructure investment gap is estimated at about US\$3.9 trillion or 10% of projected GDP for the 15-year period to 2030<sup>4</sup>. China's Belt and Road Initiative<sup>5</sup> (BRI) stands out with estimates of over US\$1 trillion<sup>6</sup> worth of infrastructure spending projected up to 2027. If successful, it can provide a big lift to the region, which needs significant infrastructure development and financing.

Likewise, investment in education will continue. For example, in Emerging Asia, enrolment rates in tertiary education are often still low with significant potential to grow, particularly in skills-based and vocational education. In advanced Asia, the continued upgrading of skills, expertise and innovation will support productivity growth. Asia is also attracting talent from all over the world.

A third driver of growth is deeper regional integration. While this will benefit Emerging Asia, it is also important for the more advanced Asian economies. Financial integration within Asia has notably increased, but is still lower than trade integration. About 60% of Asia's exports and imports go to, or originate from, the region, but only 20% to 30% of cross-border portfolio investment and bank claims are intra-regional, leaving plenty of capacity for growth in cross-country investment flows<sup>7</sup>. Another driver will be the continued opening up of Asia's capital markets to foreign investors. For example, China A-shares has been increasingly added to MSCI's emerging market benchmark index since July 2018. Although globalisation may progress more slowly going forward, together with regional integration, it is expected to support Asia's growth story over the longer term.

<sup>2</sup> United Nations, Department of Economic and Social Affairs, Population Division (2018). World Urbanization Prospects: The 2018 Revision, Online Edition.

<sup>3</sup> Homi Kharas (2017), "The unprecedented expansion of the global middle class: An update," Global Economy & Development, Working Paper 100, Brookings Institution

<sup>4</sup> Global Infrastructure Hub 2018 Report with Oxford Economics. Investment gap measures the difference between investment needs and current investment levels. The estimates includes the needs required to meet UN Sustainable Development Goals for universal access to drinking water, sanitation and electricity by 2030.

<sup>5</sup> The BRI is a China-led project that was launched in the fall of 2013 as a network of regional infrastructure in a bid to enhance regional connectivity and financial integration. The Initiative comprises of a network of roads, railways, pipelines, ports, and power grids. The BRI connects China, through trade routes, to different countries in Europe, Central Asia, and Indo-Pacific countries (countries found on the shore of the Indian and the Pacific Ocean).

<sup>6</sup> Nadège Rolland (2019), "A concise guide to the Belt and Road Initiative", National Bureau of Asian Research

<sup>7</sup> IMF, Regional Economic Outlook: Asia and Pacific, May 2015

## Asia Has Challenges to Overcome Before It Can Deliver Its Full Potential

Asia's path going forward is not going to be smooth. There will undoubtedly be challenges that have to be overcome along the way.

One challenge is structural reforms, which must continue. Further liberalising trade and market access are critical to improving productivity and unlocking Asia's growth potential. In advanced Asian countries, reforms will be key to raising the effectiveness of innovation and spur service sector expansion. Emerging Asia will need to address infrastructure bottlenecks, improve flexibility of the formal labour market, and raise access to healthcare, education, and financial services. The private sector could be encouraged to play a bigger role in several countries.

Asia is also vulnerable to geopolitical tensions. While most attention has been focused on North Korea, other flashpoints include the territorial challenges in the South China Sea. These are tail-risks that could disrupt Asia's growth story and security situation.

One manifestation of these tensions is the growing trade and business restrictions between the US and China. This will affect not only China itself, but also the rest of Asia, due to the high trade dependency and regional supply chain integration. While some economies may benefit from trade diversion and the reconfiguration of supply chains, such tensions are harmful to the region overall. If the US and China impose 25% tariffs on all traded goods, the peak GDP loss in the near term will be sizeable for Asia as a whole, aggravated by negative sentiments and tighter financial conditions<sup>8</sup>. The tensions are already causing a slowdown in regional trade. Many countries will be significantly worse off, losing the benefits from globalised markets and supply chains, and the sharing of knowledge, innovation, and technology that enable countries to progress together. In such a scenario, China and the other Asian countries will still be able to develop and upgrade their domestic economies. It is not likely that China's growth and development can be stopped. But the fragmentation of markets and a drive for self-sufficiency will lead to slower productivity growth and misallocation of resources.

New technologies can help boost productivity and compensate for a shrinking labour force in some countries. However, they will also disrupt businesses and the job markets. Labour in more advanced economies remain exposed to the automation of routine tasks, due to higher wages and declining costs of capital goods. In Emerging Asia, automation threatens the traditional "development route" of labour-intensive manufacturing. This will require proactive policies to enable businesses and workers to adapt to and take advantage of new opportunities.

Lastly, Asia needs to overcome labour, natural resource, and environmental constraints. Some countries like China, Japan, and Thailand are aging and their labour forces are shrinking. In addition, there is a need for proper regulation, incentives and investment in green technology to address the resource scarcity and environmental challenges. This will have a big impact on the economies' potential growth and their people's well-being in the long run.

If Asia overcomes these challenges – and we believe the governments, businesses, and people have the resolve and capabilities to do so – the region will remain economically vibrant and attractive for investors. This will cement the global economic and financial shift to Asia over the long term.

<sup>8</sup> The October 2018 edition of the IMF's Regional Economic Outlook estimated the impact of a 25% across-the-board tariff on regional GDP in the near term to be 1.6% for China, and 1% for the rest of Asia. The peak GDP loss measures the maximum percent deviation of real GDP relative from the baseline, over the first couple of years of trade war. The scenario estimates also factor in a 25% US tariff on autos/ auto parts and retaliation from auto-exporting trading partners.

## How Does GIC Invest in Asia?

High economic growth does not automatically mean higher investment returns. At GIC, we target companies and sectors that benefit from current or future drivers of the economy, and invest via both the public or private markets across the region. As a long-term value investor, we look to buy the “growth story” before it is fully priced into valuations and stand ready to take advantage of potential market dislocations.

GIC has been an early and significant investor in Asia. Starting in Japan in the 1980s, and expanding to Emerging Asia from the 1990s, GIC focused on growing the Asia portfolio given our belief that the region will benefit from sustained structural improvements and outperform in the long term. One way GIC gained exposure to Asia was indirectly through multi-nationals. In the earlier years, these were good vehicles to use, because of their better governance and liquidity. However, with the rising number of strong, unique businesses<sup>9</sup> established by domestic Asian firms, increasingly we have felt the need to gain direct exposures. Today, about 30% of our portfolio is in Asia, more than most global institutional investors. Even in the private markets, GIC ranks as a significant foreign institutional investor in the region.

As a long-term investor, we have provided stable capital across all asset classes to markets in Asia through the cycles. Having offices in Asia's key financial cities (Beijing, Mumbai, Seoul, Shanghai and Tokyo) has enabled us to capture attractive opportunities, develop on-the-ground expertise and networks, engage better with our partners and investee companies, and gain unique insights. For example, in China, GIC was among the earliest recipients of Qualified Foreign Institutional Investor (QFII) and RMB QFII (RQFII) quotas and was one of the first foreign participants in its interbank bond market. Beyond our capital, we also add value by sharing our global expertise and relationships, and creating opportunities for our partners and investee companies in the region.

## Conclusion

Asia presents attractive opportunities across consumption-based goods and services sectors, including financial services, healthcare, education, and technology. Its global value proposition will increase further, fuelled by the continued rise of its middle class, infrastructure investments, and regional integration, backed by steady technological progress. While Asia has challenges to overcome, GIC is confident that these can be addressed, in particular through sustained structural reforms. As an early and steady investor in the region, we have learned valuable lessons and will continue to strengthen our capabilities and partnerships. This will help us play a positive role in Asia's growth over the long term.

<sup>9</sup> Based on Fortune Global 500 company list for 2018, 40% are headquartered in Asia, up from circa 25% in 2005.

# Governance

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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 which 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.

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

### Source and Purpose of Funds

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

The Government does not specify to GIC the proportion of assets from each source. The Government mandates GIC to manage all assets in a single pool, on an unencumbered basis and without regard to their source, with the aim of achieving good long-term real returns. (An explanation of the Government's framework for managing its assets and liabilities is available on 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 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.

### 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. 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.

As a Fifth Schedule company, GIC is directly accountable in a number of key areas to the Singapore President, who is empowered to access any information needed to safeguard the country's reserves. No one may be appointed to or removed from the GIC Board without the President's concurrence. This additional layer of control ensures that the company appoints only people of integrity who are competent and can be trusted to safeguard these assets.

### The Government

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

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

GIC provides monthly and quarterly reports to the Government through the Accountant-General of Singapore. These reports list the financial transactions, 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 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.

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 which determines the long-term asset allocation strategy and for the overall performance of the portfolio. GIC's asset allocation operates within the risk constraints determined by the Government in its mandate to GIC.

The Board is supported by five board committees.

### Board Committees

#### 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.

#### 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.

### Risk Committee

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

### Audit Committee

The Audit Committee reviews and assesses the adequacy and effectiveness of internal controls. These include financial, operational and compliance, as well as risk management policies and procedures. 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.

### 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 GIC Management global and regional perspectives on geopolitical, economic and market developments. It provides advice and perspectives on a range of investment-related matters; in particular, global investment trends, emerging asset classes and new growth opportunities.

## GIC Management

The 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 structure is relatively flat and comprises four 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. It deliberates on management proposals on organizational, investment and risk issues before these are submitted to the relevant board committees and the GIC Board. The committee reviews and approves major business, governance and policy issues which 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 engages in portfolio management activities such as scenario and risk planning, liquidity and hedging assessment and management, and active capital budget recommendations.

### 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 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.

## Governance Structure Overview

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

|                                     |  | Terms of Reference   |
|-------------------------------------|--|--|
| <b>GIC Board</b>                    |  | <p>Responsible for the Policy Portfolio which determines GIC's long-term asset allocation strategy and for the overall performance of the GIC Portfolio.</p> <p>Does not approve individual investments which are the responsibilities of the GIC Management.</p>  |
| <b>International Advisory Board</b> |  | <p>Provides views on market developments generally and, in particular, the medium- to long-term outlook for investment opportunities around the world.</p>   |
| <b>Board Committees</b>             | <b>Investment Strategies Committee</b>           | <p>Assists the GIC Board in evaluating GIC Management's recommendations on asset allocation, and in its oversight of overall portfolio performance.</p> <p>Recommends the key drivers for GIC's return and risk outcomes.</p> <p>Does not approve individual investments.</p>  |
|                                     | <b>Investment Board</b>                          | <p>Assists the GIC Board in its oversight of GIC's investment process, with particular attention to large individual investments.</p>  |
|                                     | <b>Risk Committee</b>                            | <p>Oversees the effectiveness of risk management policies and practices in the GIC Group.</p>  |
|                                     | <b>Audit Committee</b>                           | <p>Looks into the effectiveness of the internal control systems for safeguarding company assets and Client's investment portfolios.</p> <p>Reviews integrity of the financial reporting process, significant ethics violations, compliance with regulatory and legal requirements, and issues of fraud and financial losses.</p> |
|                                     | <b>Human Resource and Organization Committee</b> | <p>Oversees organizational matters in GIC, including compensation policies, talent development, succession planning, and organizational development.</p>   |
| <b>GIC Management</b>               |  | <p>Formulates and executes investment strategies.</p> <p>Constructs Active Portfolio, with an overlay of active, skill-based strategies.</p>   |

# GIC Board, Board Committees and Management Committees

| Board of Directors   | Board Committees  | International Advisory Board   |  |
|--|---|--|--|
| <p><b>Chairman</b><br/><u>Lee Hsien Loong</u></p> <p><b>Deputy Chairman</b><br/>Tharman <u>Shanmugaratnam</u><br/>(appointed 1 May 2019)</p> <p><b>Directors</b><br/><u>Teo Chee Hean</u><br/><u>Heng Swee Keat</u><br/><u>Lim Hng Kiang</u><br/><u>Ang Kong Hua</u><br/>Peter <u>Seah</u> Lim Huat<br/><u>Chew</u> Choon Seng<br/><u>Hsieh</u> Fu Hua<br/><u>Loh</u> Boon Chye<br/>Gautam <u>Banerjee</u><br/>Suppiah <u>Dhanabalan</u><br/><u>Koh</u> Boon Hwee<br/>Dr Tony <u>Tan</u> Keng Yam<br/>Lawrence <u>Wong</u><br/>(appointed 1 November 2018)<br/><u>Seck</u> Wai Kwong<br/>(appointed 9 November 2018)<br/><u>Lim</u> Chow Kiat<br/>Dr Jeffrey <u>Jaensubhakij</u></p> | <p>Investment Strategies Committee</p> <p><b>Chairman</b><br/>Tharman <u>Shanmugaratnam</u></p> <p><b>Deputy Chairman</b><br/>Peter <u>Seah</u> Lim Huat</p> <p><b>Members</b><br/><u>Lim</u> Hng Kiang<br/><u>Ang</u> Kong Hua<br/><u>Heng</u> Swee Keat<br/>Lawrence <u>Wong</u><br/><u>Chan</u> Chun Sing<br/>(appointed 1 October 2018)</p> <p><b>Advisors</b><br/>Dr Martin L <u>Leibowitz</u><br/>G Leonard <u>Baker</u> Jr<br/>David <u>Denison</u><br/>Dr Mohamed <u>El-Erian</u><br/>Carsten <u>Stendevad</u><br/>(appointed 1 October 2018)</p> <p>Investment Board</p> <p><b>Chairman</b><br/><u>Ang</u> Kong Hua</p> <p><b>Members</b><br/>G Leonard <u>Baker</u> Jr<br/>Léon <u>Bressler</u><br/>David <u>Denison</u><br/><u>Hsieh</u> Fu Hua<br/><u>Koh</u> Boon Hwee</p> | <p>Risk Committee</p> <p><b>Chairman</b><br/><u>Lim</u> Hng Kiang</p> <p><b>Members</b><br/><u>Loh</u> Boon Chye<br/><u>Lam</u> Kun Kin<br/><u>Seck</u> Wai Kwong<br/>(appointed 29 April 2019)</p> <p><b>Advisor</b><br/>Dr Martin L <u>Leibowitz</u></p> <p>Audit Committee</p> <p><b>Chairman</b><br/><u>Chew</u> Choon Seng</p> <p><b>Members</b><br/><u>Loh</u> Boon Chye<br/>Gautam <u>Banerjee</u></p> <p>Human Resource and Organization Committee</p> <p><b>Chairman</b><br/>Peter <u>Seah</u> Lim Huat</p> <p><b>Members</b><br/><u>Chew</u> Choon Seng<br/><u>Hsieh</u> Fu Hua<br/>Gautam <u>Banerjee</u></p> | <p><b>Chairman</b><br/><u>Teo</u> Chee Hean</p> <p><b>Members</b><br/>G Leonard <u>Baker</u> Jr<br/>Léon <u>Bressler</u><br/>David <u>Denison</u><br/>Dr Mohamed <u>El-Erian</u><br/>Uday <u>Kotak</u><br/>Carsten <u>Stendevad</u><br/>(appointed 1 October 2018)</p> |

# GIC Board, Board Committees and Management Committees

## Group Committees

### Group Executive Committee

#### Chairman

Lim Chow Kiat  
Chief Executive Officer

#### Members

Dr Jeffrey Jaensubhakij  
Group Chief Investment Officer

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

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

Dr Chia Tai Tee  
Chief Risk Officer

Wu Choy Peng  
Chief Technology Officer

Deanna Ong  
Chief People Officer

### Investment Management Committee

#### Chairman

Dr Jeffrey Jaensubhakij  
Group Chief Investment Officer

#### Members

Dr Chia Tai Tee  
Chief Risk Officer

Kevin Bong  
Director, Economics &  
Investment Strategy

Bryan Yeo  
Chief Investment Officer,  
Public Equities

Liew Tzu Mi  
Chief Investment Officer,  
Fixed Income

Ang Eng Seng  
Chief Investment Officer,  
Infrastructure

Choo Yong Cheen  
Chief Investment Officer,  
Private Equity

Lee Kok Sun  
Chief Investment Officer,  
Real Estate

Betty Tay  
Director, External Managers

Arjun Khullar  
Head, Integrated Strategies

Sam Kim  
Director, Portfolio Execution

### Direct Investment Steering Committee

#### Chairman

Lim Chow Kiat  
Chief Executive Officer

#### Members

Dr Jeffrey Jaensubhakij  
Group Chief Investment Officer

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

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

Arjun Gupta  
President (Europe)

Bryan Yeo  
Chief Investment Officer,  
Public Equities

Choo Yong Cheen  
Chief Investment Officer,  
Private Equity

Lee Kok Sun  
Chief Investment Officer,  
Real Estate

Ang Eng Seng  
Chief Investment Officer,  
Infrastructure

### Group Risk Committee

#### Chairman

Dr Chia Tai Tee  
Chief Risk Officer

#### Members

Jin Yuen Yee  
Deputy Chief Risk Officer and Director,  
Risk and Performance Management

Kevin Bong  
Director, Economics & Investment Strategy

Charles Lim  
General Counsel

Leong Wing Kwan  
Director, Investment Services (Public Markets)

Chan Hoe Yin  
Director, Investment Services  
(Private Markets and Finance)

Sam Liew  
Director, Business Solutions & Technology

John Tang  
Global Head, Global Investments,  
Strategy & Risk, Private Equity

Ravi Balasubramanian  
Head, Asia Equities Research, Equities

Daniel Loo  
Head, Portfolio Solutions Group, Fixed Income

Tracy Stroh  
Head, Research and Strategic Planning,  
Real Estate

Sam Kim  
Director, Portfolio Execution

# Organizational Structure

| Board of Directors   |  |   | International Advisory Board |   |  |   |
|--|--|---|------------------------------|---|--|---|
| <b>Board Committees</b>  |  |   |                              |   |  |   |
| Investment Strategies Committee                                      |  | Audit Committee   |                              |   |  |   |
| Investment Board   |  | Human Resource and Organization Committee                                   |                              |   |  |   |
| Risk Committee   |  |   |                              |   |  |   |
| <b>Group Executive Committee</b>                                     |  |   |                              |   |  |   |
| <u>Lim</u> Chow Kiat<br>Chief Executive Officer                      |  | Dr Jeffrey <u>Jaensubhakij</u><br>Group Chief Investment Officer            |                              | <u>Tay</u> Lim Hock<br>Chief Operating Officer and<br>Deputy Group Chief Investment Officer |  | <u>Lim</u> Kee Chong<br>Deputy Group Chief Investment Officer,<br>President (Americas) and<br>Director, Integrated Strategies |
| Dr <u>Chia</u> Tai Tee<br>Chief Risk Officer                         |  | <u>Wu</u> Choy Peng<br>Chief Technology Officer                             |                              | Deanna <u>Ong</u><br>Chief People Officer   |  |   |
| <b>Corporate Headquarters</b>  |  |   |                              | <b>Investment Groups</b>  |  |   |
| <u>Wong</u> Ai Chiat<br>Corporate Administration &<br>Infrastructure |  | <u>Shang</u> Thong Chie<br>Enterprise Strategy                              |                              | <u>Leong</u> Wing Kwan<br>Investment Services<br>(Public Markets)                           |  | Public Equities<br><u>Bryan</u> <u>Yeo</u><br>Chief Investment Officer  |
| Jason <u>Leow</u><br>Corporate Affairs &<br>Communications           |  | Peter <u>Goh</u><br>Human Resource &<br>Organization                        |                              | Charles <u>Lim</u><br>Legal & Compliance  |  | Private Equity<br><u>Choo</u> Yong Cheen<br>Chief Investment Officer  |
| Kevin <u>Bong</u><br>Economics & Investment<br>Strategy              |  | Vincent <u>Cheang</u><br>Internal Audit                                     |                              | <u>Jin</u> Yuen Yee<br>Risk & Performance<br>Management                                     |  | Real Estate<br><u>Lee</u> Kok Sun<br>Chief Investment Officer   |
|  |  | <u>Chan</u> Hoe Yin<br>Investment Services<br>(Private Markets and Finance) |                              | <u>Wu</u> Choy Peng<br>Technology   |  | External Managers<br>Betty <u>Tay</u><br>Director   |
| <b>Global Offices</b>  |  |   |                              | Fixed Income<br><u>Liew</u> Tzu Mi<br>Chief Investment Officer                              |  |   |
| <u>Lim</u> Kee Chong<br>President (Americas)                         |  | Kishore <u>Gotety</u><br>Mumbai   |                              | <u>Lee</u> Kok Sun<br>Seoul   |  | Infrastructure<br><u>Ang</u> Eng Seng<br>Chief Investment Officer   |
| Arjun <u>Gupta</u><br>President (Europe)                             |  | Kevin <u>Looi</u><br>San Francisco  |                              | <u>Sun</u> Jianjun<br>Shanghai  |  | Integrated Strategies<br><u>Lim</u> Kee Chong<br>Director   |
| Sharon <u>Sun</u><br>Beijing   |  | Wolfgang <u>Schwerdtle</u><br>São Paulo                                     |                              | Ken <u>Chan</u><br>Tokyo  |  | Portfolio Execution<br>Sam <u>Kim</u><br>Director   |

# Profiles



## Lee Hsien Loong

Prime Minister

Lee Hsien Loong has been Prime Minister of Singapore since 2004. 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 has a BA (First Class Honours) in Mathematics and a Diploma in Computer Science from Cambridge University, as well as a Masters in Public Administration from Harvard University.



## Tharman Shanmugaratnam

Senior Minister & Coordinating Minister for Social Policies

Tharman Shanmugaratnam is Senior Minister, Singapore. He is also Coordinating Minister for Social Policies, and advises the Prime Minister on economic policies. He is Deputy Chairman of GIC and chairs its Investment Strategies Committee. He is also Chairman of the Monetary Authority of Singapore. Tharman also chairs the Group of Thirty, an independent global council of economic and financial leaders. He chaired the G20 Eminent Persons Group on Global Financial Governance. He earlier led the International Monetary and Financial Committee, the key policy forum of the IMF, from 2011-2014, and was its first Asian chair. He served as Deputy Prime Minister for eight years (from 2011). He was also Coordinating Minister for Economic and Social Policies for four years (from 2015), after serving as Minister for Finance for eight years and Minister for Education for five years.

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



## Teo Chee Hean

Senior Minister & 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 BSc (First Class Honours) in Electrical Engineering and Management Science from the University of Manchester. He holds an MSc (Distinction) in Computing Science from Imperial College and a Master in Public Administration from Harvard University.



## Heng Swee Keat

Deputy Prime Minister & Minister for Finance

Heng Swee Keat is the Deputy Prime Minister and the Minister for Finance. He is a member of the GIC Investment Strategies Committee. Mr Heng chairs the Future Economy Council and the National Research Foundation. From 2011 to 2015, Mr Heng served as Minister for Education. 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 has an MA in Economics from Cambridge University, and also holds a Masters in Public Administration from the Kennedy School of Government, Harvard University.

# Profiles



## Lawrence Wong

Minister for National Development & Second Minister for Finance

Lawrence Wong is the Minister for National Development 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, and the Ministry of Culture, Community and Youth.

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's degree in Public Administration from the Harvard Kennedy School.



## Lim Hng Kiang

Special Advisor to Ministry of Trade & Industry

Lim Hng Kiang, the Special Advisor to the Ministry of Trade and Industry, chairs the GIC Risk Committee and sits on the Investment Strategies Committee. He is also Deputy Chairman of the Monetary Authority of Singapore. 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 Masters in Public Administration from Harvard University.



## Ang Kong Hua

Chairman Semcorp Industries Ltd

Ang Kong Hua is the Chairman of Semcorp 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 BSc (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.

# Profiles



## 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 till 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, he was appointed Chairman of the Council assigned to review 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 has an MSc in Operations Research and Management Studies from the Imperial College of Science and Technology, University of London.



## Hsieh Fu Hua

Co-Founder and Advisor  
Prime Partners Group

Hsieh Fu Hua is the Co-Founder and Advisor to the PrimePartners Group, the Chairman of ACR Capital Holdings 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, the National Gallery Singapore and the Stewardship Asia Centre. He was President of the National Council of Social Service from August 2012 to July 2018. 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 (SEA)'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, Piramal Enterprises, and The Indian Hotels Company Limited, and is also the Chairman of Singapore Centre for Social Enterprise (raiSE).

Mr Banerjee holds a BSc (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.

# Profiles



## 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, Yeo Hiap Seng, Far East Orchard, Rippledot Capital Advisers, the Securities Industry Council, Agilent Technologies and AAC 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 received his Bachelor's Degree (First Class Honours) in Mechanical Engineering from the Imperial College of Science and Technology, University of London, and his MBA (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 for eight years 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 Board of Regents of Trinity International University in Chicago and as a member of the Global Advisory Board of Gordon College in Wenham, Massachusetts.

Mr Seck has an MBA from the Wharton School at the University of Pennsylvania. He graduated with First Class Honours in Economics from Monash University where he is a Vice Chancellor Professorial Fellow.

# Profiles



## 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 Ministry for Social and Family Development and Ministry of Defence. Mr Chan was also Secretary-General of the National Trades Union Congress and Minister in the Prime Minister's Office.

Mr Chan studied Economics at Cambridge University under the SAF (Overseas) and President's Scholarship, and graduated with First Class Honours. 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 & Investment Banking 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 oversees the Global Investment Banking division. Prior to joining OCBC, Mr Lam held senior management positions at GIC, Citibank Singapore and Temasek Holdings. In September 2014, he was appointed by the MAS as Co-Chairman of the Singapore Foreign Exchange Market Committee. 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 B.Acc (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

Managing Director  
Morgan Stanley

Dr Martin L. Leibowitz is a Managing Director of Morgan Stanley, and Vice Chairman of its Research Department. He advises GIC's Investment Strategies and Risk Committees. Prior to joining Morgan Stanley, 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 an AB and MS degree 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, and also a member of the Advisory Council of the Stanford Graduate School of Business. 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 BA in Mathematics from Yale and an MBA from Stanford.

# Profiles



## **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 is a graduate of the Institut d'Etudes Politiques de Paris and has a degree in Law.



## **David Denison**

Former President and CEO  
Canada Pension Plan Investment Board

David Denison is a corporate director with extensive experience in the financial services industry. He advises the GIC Investment Strategies Committee and sits on the Investment Board. He served as President and CEO of the Canada Pension Plan Investment Board from 2005 to 2012. Prior to that, he was President of Fidelity Investments Canada Limited. Mr Denison is Chairman of Element Fleet Management Corp. and a director of Royal Bank of Canada and BCE Inc. He also sits on the International Advisory Council of the China Investment Corporation and is Co-Chair of the University of Toronto Foundation Investment Committee. He was named an Officer of the Order of Canada in 2014.

Mr Denison earned Bachelor of Arts and Education degrees from the University of Toronto and is a Fellow of the Institute of Chartered Accountants of Ontario.



## **Dr Mohamed El-Erian**

Chief Economic Advisor  
Allianz

Dr Mohamed El-Erian is Chief Economic Advisor at Allianz, the parent of PIMCO where he served as CEO and co-CIO (2007-14), and former chair of President Obama's Global Development Council. He is an advisor to the GIC Investment Strategies Committee. 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".

Dr El-Erian holds a Bachelor of Economics from Cambridge University, as well as a Masters and PhD in Economics from Oxford University. He is an Honorary Fellow of Queens' College, Cambridge University.



## **Uday Kotak**

Executive Vice Chairman & Managing Director  
Kotak Mahindra Bank

Uday Kotak, Founder, Managing Director and Chief Executive Officer of Kotak Mahindra Bank, has led the group in a broad range of financial services for over 33 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 "Economic Times Business Leader of the Year Award" in 2015.

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

# Profiles



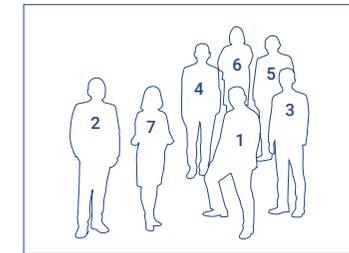
## **Carsten Stendevad**

Senior Fellow  
Bridgewater Associates

Carsten Stendevad is a member of Bridgewater's senior management team. He is an advisor to the GIC Investment Strategies Committee. 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 B.Sc. and M.Sc. 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 HM Queen Margrethe II of Denmark.

# Executive Management



- 1 **Lim Chow Kiat**  
Chief Executive Officer
- 2 **Dr Jeffrey Jaensubhakij**  
Group Chief Investment Officer
- 3 **Tay Lim Hock**  
Chief Operating Officer and  
Deputy Group Chief Investment Officer
- 4 **Lim Kee Chong**  
Deputy Group Chief Investment Officer,  
President (Americas) and  
Director, Integrated Strategies
- 5 **Dr Chia Tai Tee**  
Chief Risk Officer
- 6 **Wu Choy Peng**  
Chief Technology Officer
- 7 **Deanna Ong**  
Chief People Officer

# Executive Management



**Lim Chow Kiat**  
Chief Executive Officer

Lim Chow Kiat was appointed Chief Executive Officer on 1 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 FCLT Global. He is also a member of Agence France Trésor's Strategic Committee and International Advisory Council of Mizuho Financial Group.

Mr Lim holds a First Class Honours degree in Accountancy from Nanyang Technological University, Singapore.



**Dr Jeffrey Jaensubhakij**  
Group Chief Investment Officer

Dr Jeffrey Jaensubhakij was appointed as Group Chief Investment Officer on 1 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 BA in Economics from Cambridge University, as well as a Masters and a PhD in Economics from Stanford University.



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

Tay Lim Hock assumed the role of Chief Operating Officer (COO) 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 graduated from l'Ecole Nationale de l'Aviation Civile (ENAC) in Toulouse, France, with a Masters in Aeronautical Engineering in 1987, and completed the Stanford Executive Program in 2004.



**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, and is currently based in GIC's New York Office. He is concurrently President (Americas). He joined GIC in 1987, and built his career in the Equities Department. He was appointed Head of global equities in July 2010. In 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 graduated with an Economics degree from the University of Tokyo, where he studied under a government scholarship.

## Executive Management



**Dr Chia Tai Tee**  
Chief Risk Officer

Dr Chia Tai Tee is Chief Risk Officer at GIC. Before his appointment in July 2011, he served as Deputy Chief Risk Officer and Director of Risk and Performance Management Department. He has held various positions in economics and strategy, foreign exchange, and quantitative investments. Dr Chia sits on the EDHEC-Risk Institute International Advisory Board, chairs the People's Association Investment Advisory Committee, is a member of the Tote Board Investment Committee, Singapore Institute of Technology endowment fund Investment Committee as well as the Ministry of Home Affairs Pension Plan Board of Trustees, and its Risk and Audit Committee. Prior to joining GIC in 1994, he was a lecturer at the National University of Singapore.

Dr Chia graduated with a degree in Economics from the University of Adelaide and holds a PhD from Australian National University.



**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 (Singtel). From 2006 to 2012, she was Group Chief Information Officer of Neptune Orient Lines Group. Prior to that, she held various senior appointments including the Singapore Government's Chief Information Officer, Deputy Chief Executive (Industry) of the Infocomm Development Authority (IDA) and Chief Information Officer of the Ministry of Education (MOE). She spent 10 years at the National Computer Board (NCB) upon graduation. Ms Wu is on the board and executive committee of the National University Health System (NUHS), and chairs its Board IT Committee. She is also on the board of Info-communications Media Development Authority (IMDA), and a member of its Board Risk and Audit Committee.

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



**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 the International Forum of Sovereign Wealth Funds.

Ms Ong holds a Bachelor of Accountancy from the Nanyang Technological University of Singapore, and has completed the Stanford Executive Program.

# Our People

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

## One Global Team

Our over 1,500 employees are from more than 40 countries, reflecting the global orientation of our work. They operate out of our Singapore headquarters and offices in key financial cities – Beijing, London, Mumbai, New York, San Francisco, São Paulo, Seoul, Shanghai and Tokyo.

Regardless of role, function or location, we are one GIC united in the common pursuit of investing well for Singapore.

## High-performing Team and Collaborative Culture

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

We recruit mid-career professionals who are experts in their respective fields and can bring different perspectives to GIC. They are expected to add value to our current investing and business capabilities, as well as be effective mentors to their colleagues.

Our GIC Professionals Programme (GPP) recruits fresh graduates and provides them with a strong foundation through training, apprenticeship and rotations. Through an 8-month programme, they are exposed to GIC's investment business 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, as they embark on their career at GIC.

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

*Regardless of role, function or location, we are one GIC united in the common pursuit of investing well for Singapore.*

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

## Developing Our People

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

As a global fund manager invested across multiple asset classes, we capitalise our extensive geographical and sectoral network 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, can get the opportunity to move to other investment areas to expand their market knowledge, while continuing to hone their investment skills. Depending on work interests, mobility across business functions can be facilitated at different career stages to build relevant skills in adjacent areas, or to widen exposure for leadership development.

The GIC School, our dedicated Learning & Development academy, complements on-the-job training. It provides individual and team development programmes to equip our people for sustained high performance.

Our new hires go through an onboarding journey in their first year to help them get up to speed quickly to operate at their best. We conduct Foundation Programmes for our employees at every stage of their career growth, to prepare them for the responsibilities and challenges at each level of appointment. The School also prepares leaders to take on wider enterprise responsibilities through coaching and leadership programmes. This ensures that our leaders maximise their impact on teams and develop others for sustained long-term performance.

Effective teams are integral to GIC's success. Our People Manager Programme provides skills-based training for supervisors to develop key managerial mindsets and behaviours to lead high-performing teams. It includes topical clinics with targeted support for managers in line with business needs. Team Effectiveness Programmes address the important roles of individuals in building a high-performing team environment and meaningful team relationships, to strengthen work alignment and contribution to results.

The GIC School also offers multi-disciplinary elective courses. The GIC Digital Curriculum, for example, comprises two tracks – a baseline track that seeks to create digital awareness and enhance proficiency across the organization, and a business domain-specific track that aims to tackle business problems through an applied learning approach.

## Key Organizational Movements

Systematic succession planning is vital to build a strong talent pipeline of next-generation leaders with the right GIC values.

This year, we welcome our new Managing Directors: Mr Kevin Bong, Ms Doreen Chia, Dr Prakash Kannan, Mr Mark Lee, Mr Jason Leow, Mr Sam Liew, Ms June Long, Mr Kevin Looi, Mr Wolfgang Schwerdtle and Mr Pankaj Sood.

On 1 July 2019, Mr Goh Kok Huat and Dr Leslie Teo stepped down as Chief Operating Officer (COO), and Director of Economics and Investment Strategy & Chief Economist, respectively. Mr Tay Lim Hock succeeded Mr Goh as COO, while Mr Kevin Bong and Dr Prakash Kannan succeeded Dr Teo as Director of Economics and Investment Strategy and Chief Economist, respectively. We thank Mr Goh and Dr Teo for their many contributions spanning more than a decade, including working with the management team to strengthen GIC's investment capabilities.

The following Managing Directors retired from GIC in the past year: Mr Dominic Lim, Mr Loh Wai Keong and Ms Joyce Tan. We thank them for their service and contributions.

## Our Compensation Principles

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

*Systematic succession planning is vital to build a strong talent pipeline of next-generation leaders with the right GIC values.*

## Building Confident Communities

At the heart of GIC’s culture is the belief that our PRIME values act as a compass, as we seek to create long-term value for all our stakeholders. This belief extends to our community programmes which deliver long-term impact and result in confident and inclusive communities. We strongly encourage GICians to put our PRIME values into action by volunteering their time and skills, and believe this effort supports their professional and personal development.

GIC Sparks and Smiles (GIC Sparks) is a leadership programme that empowers committed Singaporean youth from low-income households to make a difference in the community. Our 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, close to 500 students have collectively volunteered approximately 12,000 hours to mentor disadvantaged children and youth. These initiatives have developed the skills, confidence and leadership of our awardees, while also benefitting the community – sparking a multiplier effect.

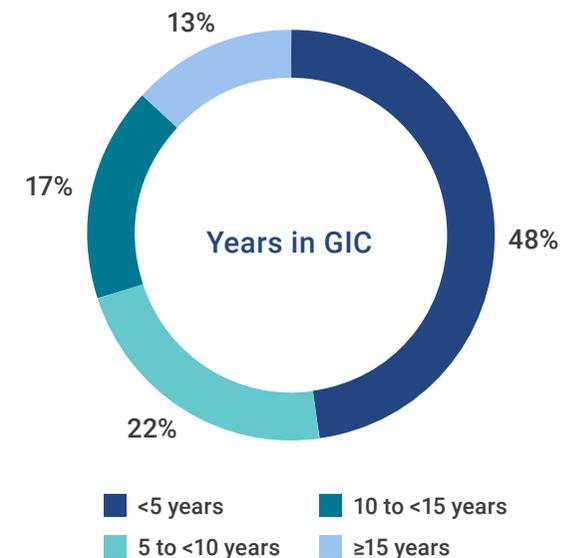
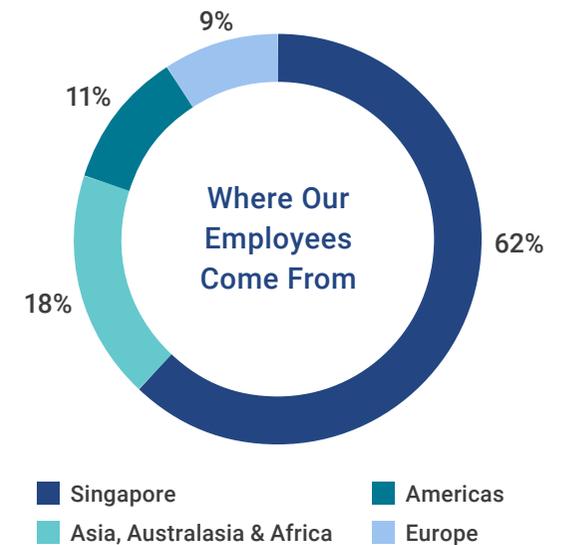
We also partner The Purple Symphony, Singapore’s largest inclusive orchestra, to support persons with special needs and disadvantaged

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 over the long term. 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 for our community outreach programmes – Safehouse Sessions (“Safehouse”) and Learning Journeys.

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 Singapore being the first non-commodity based country to have a sovereign wealth fund; how GIC currently contributes to the Government budget, and our investment principles and processes.

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



# Our Offices





[www.gic.com.sg](http://www.gic.com.sg)