GIC'S NEW INVESTMENT FRAMEWORK

In 2012, GIC launched a holistic review of its investment approach. This was the second major review since GIC's inception in 1981. The aim was to position the GIC Portfolio in anticipation of a more challenging and complex investment environment, so that GIC could continue earning good long-term real returns. The review built on GIC's strengths, applied lessons learnt, and considered changes to both investment strategies and governance.

This article describes the key outcomes of this review. The main changes to GIC's investment model involve making explicit distinctions between three drivers of long-term performance. First, the **Reference Portfolio** which is based on a balance of global equity and bond market indices, and describes the amount of risk the Government is prepared to have GIC take. Second, the **Policy Portfolio** which represents GIC's strategy for asset allocation that differentiates it from the passive Reference Portfolio and aims to improve returns over the long horizon. This Policy Portfolio is approved by the GIC Board, and has been simplified from 13 to 6 asset classes so as to focus on the core drivers of returns over the long term. Third, the **Active Portfolio** that allows the GIC management to undertake skill-based and opportunistic strategies. This Active Portfolio is the responsibility of the GIC management operating within a risk budget set by the GIC Board.

Figure 1 – Major Changes to GIC's Investment Framework

FIRST TWO DECADES
Conservative Stance
- Focused on building organizational capabilities
- Conservative asset allocation focused on liquid assets
- Venturing into Asia
- Beginning exposures to real estate and private equity

2000s
Shift to an Endowment Approach
- Greater tolerance for risk and lower need for liquidity
- Increased allocation to private markets and emerging markets

2013
Focus on Long-term Drivers of Returns
- Introduction of a Reference Portfolio
- A more targeted Policy Portfolio to harvest long-term returns
- Augmented with an Active Portfolio of skill-based strategies

CHANGES TO GIC'S INVESTMENT APPROACH – 1980s TO 2000s

To provide context to the most recent changes, the next section highlights the major shifts in GIC's investment framework (Figure 1).

THE FIRST TWO DECADES

Building organizational capabilities

GIC's investment stance in the first two decades was conservative. Its first priority was to build an investment organization that could preserve the purchasing power of the funds that it managed. When GIC began operations as a fund manager for the Government, it inherited a legacy portfolio from the *de facto* central bank, the Monetary Authority of Singapore (MAS), which comprised mainly Treasury bills, short-term bonds and gold. These assets were aligned to a typical central bank's need for safety and liquidity. The reserves managed by GIC were then regarded primarily as a contingency fund to see a small, resource-scarce nation through trying national or international circumstances.

Caution was also called for because of the unusual stress in global financial markets in GIC's early years.

In addition, GIC's investment capabilities were then rudimentary. There was a dearth of investment management expertise locally, and GIC's initial hires were largely inexperienced, young professionals. A few experienced global investment managers were hired and tasked with managing the initial portfolio and mentoring GIC's officers. As GIC developed its investment capabilities, it gradually expanded to cover more asset markets. This meant investing in equities beyond the US and Japan, which it started with, to selected European and Asian markets. A bonds department was also formed. New units were created to invest in private equity and real estate, although funds allocated were small.

Conservative asset allocation focused on liquid assets

GIC's initial Policy Portfolio, which remained in place until the end of the 1990s, was 30% equities, 40% bonds and 30% cash ("30:40:30"). The portfolio was decidedly conservative. It had a larger allocation to cash and bonds than other institutional investors such as US pension funds, which typically had asset allocations of 60% to 70% equities, 30% to 40% bonds and no cash.

The 1990s – Venturing into Asia

In the 1990s, GIC began moderating its concentration in the US and UK markets, which then accounted for 60% to 70% of the portfolio. It broadened its portfolio to take advantage of new investment opportunities in Europe and emerging Asia following the end of the Cold War.

Intertwined with the orientation towards Asia was an increased allocation to real estate and private equity, although they remained a small percentage of the total portfolio. As the capital markets in many emerging Asian countries were underdeveloped, investments in real estate and private equity often provided avenues to capitalise on the economic transformation in these fast growing economies.

THE 2000s – SHIFT TO AN ENDOWMENT APPROACH

In the early 2000s, GIC and the Ministry of Finance embarked on a major review of GIC's investment objectives and asset allocation policy. MOF decided that it could accept higher risk and illiquidity in the portfolio. The result was a Policy Portfolio with a larger allocation to public equities, especially in emerging markets, and alternative asset classes.

The review was prompted by the growth of the GIC Portfolio over the first two decades. The reserves had become more than a contingency fund; they also formed the country's financial endowment. This meant that the GIC Portfolio had less need for liquidity and could invest a larger proportion in assets with inherently higher risks so as to achieve better long-term returns, even though such assets could be more volatile in the short term. GIC could thus take greater advantage of its long-term investment horizon. The deepening of emerging markets as well as the development of alternative asset classes globally, such as commodities, inflation-linked bonds, and absolute return strategies provided some of the means to do so.

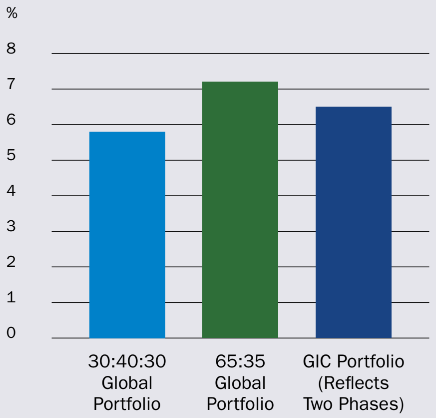
The review led GIC to adopt a new Policy Portfolio that reflected its increased risk tolerance. Allocations to bonds and cash were reduced steadily from over two-thirds to less than one-third of the portfolio. Correspondingly, there was a significant increase in allocations to public equities including emerging market equities, and to alternative asset classes such as real estate, private equity, infrastructure and absolute return strategies. Over the decade, the GIC Policy Portfolio grew to include 13 asset classes[1]. Similar shifts towards equities and alternative assets were made by some other sovereign wealth funds, such as Norway's Government Pension Fund Global, which embarked on its new strategy in 2007. However, GIC's allocation to equities and alternative asset classes remained smaller than that of many other endowment funds in the US.

GIC's increased exposure to public equities and alternative asset classes had led to a shift in the medium- to long-term risk and return profile. This is illustrated in Figure 2, which shows returns over the last 20 years for different portfolios. An investor with a conservative 30:40:30 global portfolio would have earned 5.8% per annum (in USD terms) over the last 20 years, as compared to a 7.2% return delivered by a 65:35 global portfolio. The GIC Portfolio reflected these two distinct risk orientations - a conservative asset allocation of 30:40:30 initially, before taking on a risk profile very similar to a 65:35 global portfolio in the last 10 years through an increased allocation to equities and equity-like assets. Consequently, the GIC Portfolio delivered 6.5% over the 20-year period as a whole, in between the results of these two different portfolios[2].

[1] These were: developed markets equities, emerging markets equities (distinguishing between Asia and non-Asia), nominal bonds, inflation-linked bonds, real estate, private equity, infrastructure, marketable alternatives, natural resources, special situations portfolio, real return programme, and cash.

[2] In the last 10 years when the asset mix was closer to that of a 65:35 global portfolio, the GIC Portfolio returned 8.8% compared to 8.6% for the 65:35 global portfolio, and 6.3% for the 30:40:30 global portfolio.

Figure 2 – 20-Year Annualised Returns* as of 31 March 2013 (in USD terms)



Note:
* 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. However, the global portfolio rates of return are provided on a gross basis, i.e. without adjustment for costs and fees.

THE 2012 REVIEW – FOCUSING ON LONG-TERM AND SKILL-BASED DRIVERS OF RETURN

A decade after the last major review, GIC embarked on a fresh review in 2012. This focused on GIC's core strengths and capabilities that would enable it to sustain high performance in an increasingly challenging and complex investment environment. It also clarified GIC's long-term investment objectives and the responsibilities of the GIC Board and management. The review involved both GIC Board and management and benefited from extensive consultations with a group of eminent experts in investment management[3].

The review came after the Constitution Amendment in 2008 which allowed the Government to spend Net Investment Returns on assets managed by GIC and MAS on the basis of long-term expected real returns rather than actual annual investment income which may fluctuate significantly depending on market cycles. This approach was similar to that of major endowment funds. Focusing on total returns, including capital gains and losses, removed any incentive to skew investments towards obtaining interest and dividend income at the expense of total returns, or to follow strategies that maximise short-term returns at the expense of longer-term performance. This new framework of spending out of expected long-term returns reinforced the GIC's orientation of taking a long-term approach in its investment strategies, including a significant allocation to equities and less liquid asset classes even if they entailed higher risks over the short term.

Drivers of long-term performance

This new investment framework makes explicit the distinction among three drivers of long-term performance for GIC.

- First, the performance of global markets. This is represented by the '**Reference Portfolio**' which characterises the risk that the Government is prepared for GIC to take in its long-term investment strategies.
- Second, the GIC's '**Policy Portfolio**' which represents its strategy for asset allocation that differentiates it from the passive Reference Portfolio and aims to achieve superior returns over the long horizon. This Policy Portfolio is the main driver of returns over the long term, and is approved by the Board. The Policy Portfolio has also been simplified from 13 asset classes previously to 6 core asset classes.
- Third, the '**Active Portfolio**' of skill-based strategies, adopted by GIC management within risk limits set by the Board. This Active Portfolio seeks to outperform the Policy Portfolio. These skill-based strategies involve selecting investment opportunities within each asset class, as well as investing in asset classes that are not contained in the simplified Policy Portfolio and cross-asset class strategies.

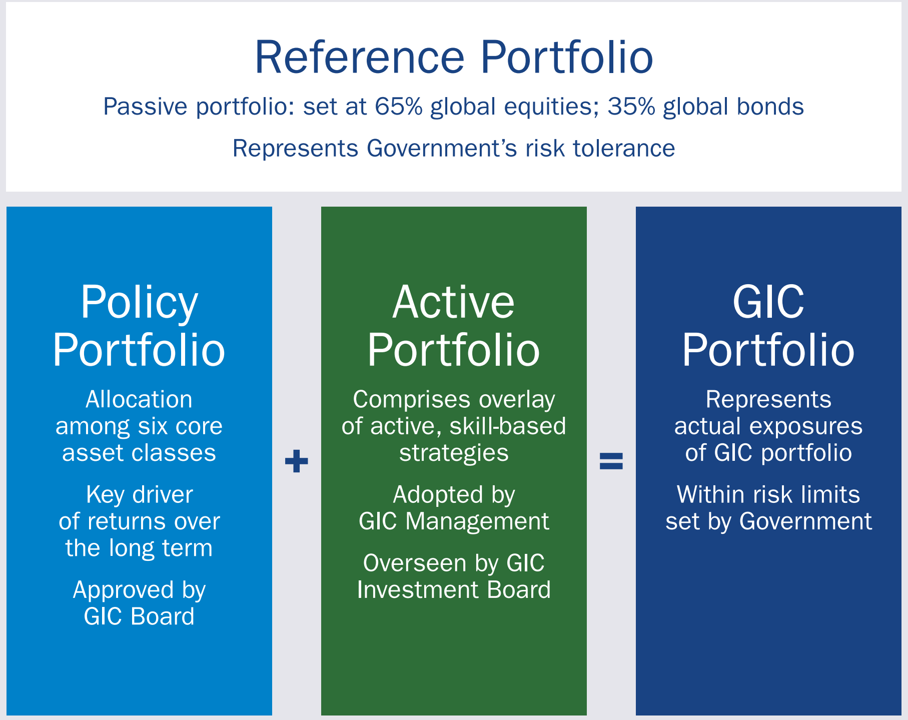
The new investment framework clearly sets out responsibilities across GIC, from investment professionals to the Board. Figure 3 illustrates.

In essence, within the risk tolerance limits defined by the Reference Portfolio, GIC aims to achieve better long-term returns than can be attained through investing passively i.e. "beta" returns[4]. The GIC Portfolio is principally shaped by the Policy Portfolio, but allows for an active overlay of management strategies. The new framework distinguishes clearly between different drivers of return. The Policy Portfolio focuses on taking systematic risks to achieve higher returns through long-term asset allocation strategies. Separately, the Active Portfolio aims at additional skills-based "alpha" returns.

[3] The group of experts comprises Mr Leonard Baker, Partner, Sutter Hill Ventures; Mr John Ilkiw, former Senior Vice President of Portfolio Design and Risk Management, Canada Pension Plan Investment Board; Mr Knut Kjaer, former CEO, Norges Bank Investment Management; Mr Mark Kritzman, Managing Partner & CIO, Windham Capital Management; Dr Martin Leibowitz, former CIO, TIAA-CREF; Dr Robert Litterman, former Chairman, Goldman Sachs Asset Management Quantitative Investment Strategies Group; Mr Howard Marks, Chairman, Oaktree Capital Management; and Mr Brian Singer, former head of UBS Global Investment Solutions.

[4] Beta is the return of the portfolio that can be attributed to overall market returns. It reflects the return for taking market or systematic risks. Alpha is the return of the portfolio that is a result of investment management skill. It reflects the return for taking on idiosyncratic or non-systematic risks.

Figure 3 – New Investment Framework



REFERENCE PORTFOLIO

Passive market index

The Reference Portfolio that has been adopted comprises 65% global equities and 35% global bonds[5]. It is a generally accepted passive alternative for a large global investor such as GIC. It is consistent with the Government's mandate for GIC, to secure a reasonable rate of return above global inflation over the long term, without taking excessive risk.

The proportion of equities versus bonds broadly determines how much of a decline a portfolio could face in times of market stress: the greater the proportion of equities, the higher the decline. At the same time, the higher the proportion of bonds, the lower the likely return of the portfolio over the long term. For example, looking back at the last half a century, a 65:35 global portfolio would have experienced losses of 20-30% over rolling 3-year periods during periods of market stress such as the Tech Bubble Crash (2001-03) and Global Financial Crisis (2008-09)[6]. These declines were not permanent, however. Over periods varying from the last 10 to 50 years, therefore, the 65:35 global portfolio has reflected a level of risk that has materialised in some significant downturns, but which has also enabled it to obtain good long-term returns[7].

However, the Reference Portfolio is not a short-term benchmark for GIC. In fact, GIC can only benefit from long-term investing if it is prepared to tolerate short-term losses or underperformance relative to the market indices from time to time. As discussed in the next section, GIC's investment strategy therefore is not to track the 65:35 global portfolio but to invest in asset classes that generate returns over the long term. It may also take a contrarian stance when markets are at extremes. Its strategies would necessarily mean deviations from 65:35 global portfolio in the short term.

POLICY PORTFOLIO

Key investment driver

The Policy Portfolio remains the central component of the investment framework. The Policy Portfolio aims at achieving superior returns through diversification and careful portfolio construction that takes into account the way different asset classes respond to possible economic environment. However, diversification in the previous Policy Portfolio had led to the adoption of 13 asset classes. In adding new asset classes, it effectively included both long-term drivers of return and short-term, skills-based strategies.

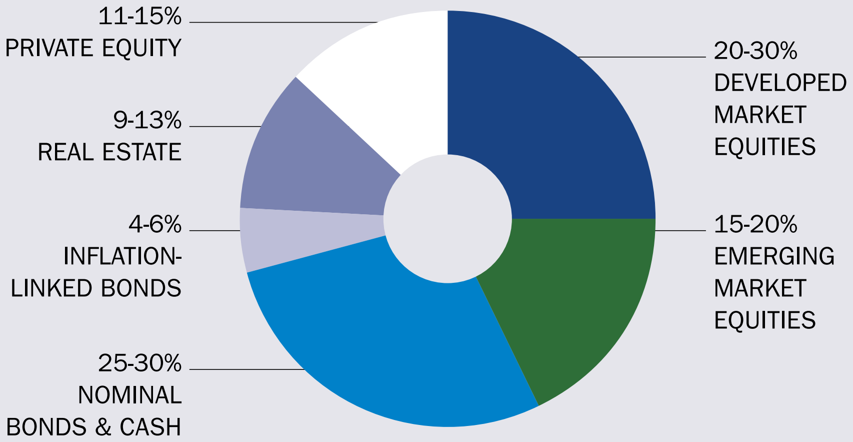
The revised Policy Portfolio has been simplified to focus on six core asset classes: developed market equities, emerging market equities, nominal bonds and cash, inflation-linked bonds, private equity and real estate. (Figure 4) These asset classes represent the key systematic or market risks, and encapsulate the bulk of the risk and return potential of the GIC Portfolio.

[5] 65% MSCI All Country World Equity Index, 35% Barclays Global Aggregate Fixed Income Index.

[6] Peak-to-trough losses are even more significant, in the order of 40%. Based on a series constructed from MSCI All Country World Equity and Barclays Global Aggregate Indices from 1988 and Shiller data for earlier years.

[7] The 10-, 20-, 30-, 40- and 50-year returns are 8.6%, 7.2%, 8.5%, 8.4% and 8.1% respectively.

Figure 4 – Policy Portfolio



The Policy Portfolio is not intended to be adjusted frequently and in particular, not in response to market cycles. However, it may be reviewed from time to time to take into account fundamental, structural changes in the global investment environment, for example, a secular shift in expected returns in a particular asset class or geographical region.

Further, adhering to a long-term Policy Portfolio enables GIC to take advantage of time-varying risk premia. This does not mean tactical asset allocation based on market timing. There are many market participants who seek to outperform through market timing, but their track records are varied and very few have been able to add value consistently. As a long-term investor, GIC does not see itself as a tactical asset allocation manager. However, GIC has a facility to change its asset allocation over the medium term in response to extreme market conditions[8].

The main means by which GIC takes advantage of time-varying nature of risk premia is a disciplined rebalancing approach to the long-term asset mix. This involves systematically buying more of the asset which has fallen in value, and selling some of the asset which has risen in value to keep the asset mix steady over time. For example, when an asset class such as equities does particularly well, and is likely to mean revert, the rebalancing rule compels investors to sell. Conversely, when equities do particularly poorly such as after a crash, rebalancing calls for increasing holdings of the undervalued assets. Numerous studies have shown that in the long run, a portfolio that is rebalanced regularly to its predefined target allocations tends to outperform a portfolio whose allocations are allowed to drift.

ACTIVE PORTFOLIO

Comprises skill-based strategies

The GIC Board approves the Policy Portfolio, taking into consideration recommendations by GIC management. It also provides the management latitude to adopt active investment strategies aimed at adding value to the Policy Portfolio. These active strategies are limited by a risk budget set by the GIC Board.

This overall risk budget is allocated among the active strategies by management. However, unlike the previous approach where active strategies were confined within the narrow confines of individual asset classes, the revised approach allows strategies to be funded by a combination of asset classes. This effectively breaks down the asset class silos.

These skill-based active strategies must do better than their cost of capital. As these strategies are not part of the Policy Portfolio, they will require funding. The natural source of funding is the sale of asset classes in the Policy Portfolio. These funding asset classes are chosen because they reflect similar risk characteristics to the active strategy. For example, strategies designed to outperform public equities are funded from the corresponding public equity holdings in the Policy Portfolio. More complicated will be strategies such as credit or infrastructure that do not have natural counterparts in the Policy Portfolio. Nevertheless, while the investments might appear different on the surface, their underlying risk and return drivers can be explained by the six core asset classes in the Policy Portfolio. For investments in credit instruments, it would be a combination of bonds and equities; for infrastructure, a combination of real estate, bonds, and equities.

[8] For example, GIC had de-risked the public equities portfolio arising from our concern about equity overvaluation in the euphoric market environment of early 2007. We reduced public equities by more than 10% over the period July 2007 to September 2008, as a precautionary strategy that helped the portfolio avoid a larger loss in the ensuing bear market. In early 2009, we decided this defensive posture was no longer warranted given the market developments, and had restored public equities to pre-crisis levels.

In effect, an active strategy replaces a policy exposure with a value-adding strategy or investment opportunity. The sale of the funding assets represents an opportunity cost, which must be made up by the value-adding activity. To account for this properly, each strategy is assigned a cost of capital derived from the expected return of its funding assets plus other premia for additional risk undertaken.

Governance of the New Investment Framework

The new investment framework provides added clarity and focus in GIC's investment strategies. It clearly defines the different risk and return drivers for GIC over the long term, and further clarifies the responsibilities of the GIC Board and management.

The framework starts with the passive 65:35 Reference Portfolio which reflects the Government's mandate to GIC: to provide a sustainable real rate of return over the long term while not taking on excessive risk. This Reference Portfolio reflects the amount of risk that Government is prepared for the GIC to take in its long-term investment strategies.

Given this mandate, the GIC Board decides on a Policy Portfolio that meets the risk constraints represented by the Reference Portfolio but aims to deliver superior long-term returns. While the Policy Portfolio will differ in performance from the Reference Portfolio over the short term, the long-term aim is for better risk-adjusted returns.

	Responsibility
GIC Board	Approves Policy Portfolio and active risk budget
Investment Strategies Committee	Reviews GIC management's recommendations on Policy Portfolio and active risk budget
Investment Board	Oversees GIC management's active strategies
GIC management	Recommends Policy Portfolio and constructs Active Portfolio
Investment teams	Add value through implementation of Policy Portfolio and active strategies

The GIC Board allows the management to deviate from the Policy Portfolio to further add value through active, skill-based strategies. This Active Portfolio is controlled by an explicit active risk budget, and overseen by a separate Investment Board. The GIC management is responsible for the overall performance of this Active Portfolio relative to the Policy Portfolio. The success of these active strategies will depend on the management team and investment professionals who undertake these investments.

The Investment Board (IB) was formed in April 2013 to provide additional and independent oversight on GIC's active investment management and process. The IB comprises individuals drawn from the private sector, who collectively bring a wealth of experience in different types of investments in a range of geographies. Membership of the Investment Board is covered in the Governance chapter of this Report. One of the roles of the IB is to ensure that GIC invests in a sound and disciplined manner. Additionally, the IB ensures that GIC does not take on undue headline risk in our pursuit of good investment opportunities. As a large investor, GIC will inevitably have significant positions in certain companies. Special attention will be paid to large investments that go beyond the exposures as represented by market benchmarks.

The table above summarises the responsibilities within the GIC under the new investment framework.

Taken as a whole, the new investment framework capitalises on GIC's strengths. These include the ability to take a long-term investment perspective; capabilities in public and private markets and the potential to synergise these to invest in cross-asset opportunities; presence in all major geographies; a skilled and experienced talent pool; and a governance structure that distinguishes clearly the responsibilities of the GIC Board and management.