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March 28, 2013

**VIA OVERNIGHT MAIL DELIVERY**

Ms. Rosemary Chiavetta, Secretary  
Pennsylvania Public Utility Commission  
Commonwealth Keystone Building  
400 North Street  
Harrisburg, Pennsylvania 17120-0200

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**MAR 28 2013**

**PA PUBLIC UTILITY COMMISSION  
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Re: Duquesne Light Certificate of Public Convenience to Transfer the  
Interests and Shares in DQE Holdings LLC to Epsom Investment Pte Ltd  
Docket No. A-2010-2213369 and Docket No. A-2011-2221461

Dear Secretary Chiavetta:

Enclosed are the original and four copies of Duquesne Light's Annual Report on the status of its Duct Sale-Epsom Purchase Commitments. The Company reviews and monitors these commitments throughout the year and looks forward to providing our report next year.

If you have any questions regarding the information provided, please contact me.

Sincerely,

Vernon J. Edwards

Enclosures

c: Ms. Tanya McCloskey-Office of Consumer Advocate  
Mr. Johnnie Sims – Bureau of Investigations and Enforcement  
Mr. Steven C. Gray-Office of Small Business Advocate



**ANNUAL REPORT ON  
EPSOM INVESTMENT/GIC INFRA HOLDINGS  
PURCHASE COMMITMENTS  
TO THE PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**DOCKET NO. A-2010-2213369**

**DOCKET NO. A-2011-2221461**

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**FILED MARCH 28, 2013**

**Commitment:** Section B(3) of the 2007 Merger Settlement approved by the Merger Order pertaining to recovery of any cost of capital premium caused by the Merger is affirmed and extended two years (from five years to seven years from the Merger closing, May 31, 2007).

Section B(3a) of the 2007 Merger Settlement states that Duquesne shall not request a capital structure for ratemaking purposes which is outside of a reasonable range of that used by comparable companies. In any future base rate proceeding, Duquesne must demonstrate that its claimed common equity ratio is reasonable and in the best interests of its customers.

**2013 Status:** DLC has complied with this commitment.

**Commitment:** Also reinstated from the 2007 Merger Settlement (Section B3b), DLC will not claim an increase in the cost of capital due to any downgrading of Duquesne debt as a direct result of the Merger or the acquisition of DUET's interests by GIC for a seven-year period after closing (May 31, 2007) through May 31, 2014.

**2013 Status:** DLC has not claimed any increase in cost of capital as a result of the Merger or acquisition.

### **Corporate Cost Allocations**

**Commitment:** DLC's corporate cost allocations will include a rent charge for the percentage of space occupied by employees who provide services to an affiliate and a supplies charge for supplies the employee may use in providing services to affiliates.

**2013 Status:** DLC remains in compliance with this commitment.

**Commitment:** DLC's corporate cost allocations will provide that all costs incurred by DLH including any costs allocated from DLC to DLH, will be allocated, to the extent appropriate, to other DLC affiliates.

**2013 Status:** DLC remains in compliance with this commitment.

**Commitment:** DLC's corporate cost allocations will include appropriate charges to all affiliates for costs incurred on their behalf by DLH for letters of credit and securities and will allocate appropriate charges associated with the DLH revolving credit agreement.

**2013 Status:** DLC remains in compliance with this commitment.

### **Corporate Structure and Ring Fencing Protections**

**Commitment:** From and after the effective date of this Settlement, DLC shall not: (1) guarantee the debt or credit instruments of DLH or any affiliate not regulated by the Commission, except as approved by the Commission upon a determination that such guarantee provides net benefits to customers; (2) grant a mortgage or other lien on any property used and useful by DLC in

providing retail utility service to the public subject to the Commission's jurisdiction, except for the financing needs of DLC; or (3) make any loan or otherwise extend credit to DLH or any affiliate not regulated by the Commission for a term of one year or more, except as approved by the Commission upon a determination that such loan or credit extension provides net benefits to customers.

**2013 Status:** DLC remains in compliance with this commitment.

**Commitment:** DQE Holdings will not permit a change in ownership among the members of DQE Holdings without prior Commission approval if such change would result in a change in control under the then-applicable Commission standards.

**2013 Status:** DLC remains in compliance with this commitment.

**Commitment:** DLC will seek Commission approval of all new or amended agreements with affiliates consistent with Chapter 21 of the Public Utility Code.

**2013 Status:** DLC remains in compliance with this commitment.

**Commitment:** DLC shall provide the OTS, OCA and OSBA with a copy of its annual reports filed with the Securities and Exchange Commission.

**2013 Status:** DLC has maintained its compliance within this commitment. No reports have been filed with the Securities and Exchange Commission.

**Commitment:** DLC agrees to continue to have outstanding separately issued debt held by investors not affiliated with DLC or its affiliates, unless the Commission authorizes to the contrary.

**2013 Status:** DLC remains in compliance with this commitment.

**Commitment:** DLH and its subsidiaries, including Duquesne, will provide, upon request, to OTS, OCA and OSBA access in connection with rate proceedings and other proceedings before the Commission, where relevant, to presentations given by DLH and its subsidiaries to common stock, bond, or rating analysts. Such material will be accorded confidential treatment.

**2013 Status:** DLC remains in compliance with this commitment.

**Commitment:** DLC's long-term debt ratio as a percent of total capitalization shall not exceed 60% absent approval from the Commission. Any request for approval will be considered on an expedited basis, if so requested.

**2013 Status:** DLC remains in compliance with this commitment. Duquesne's long-term debt ratio was 40.8% at the end of 2012.

**Commitment:** DLC shall notify the Commission of its intention to declare a special cash dividend to DLH, at least 30 days before declaring the dividend.

**2013 Status:** DLC remains in compliance with this commitment. No special cash dividends were declared.

**Commitment:** The CEO of DLH will be a member of the board of DQE Holdings, and will also chair a management committee, which will contain representatives of both the senior management team and the Macquarie Consortium.

**2013 Status:** Richard Riazzi, President and Chief Executive Officer of Duquesne Light Holdings, Inc. is a member of the Board of Directors of DQE Holdings, LLC. In addition, Mr. Riazzi serves as the Chair of the Asset Management Committee, which consists of both members of the senior management team and the Owners.

**Commitment:** DLH shall maintain, and cause its subsidiaries including Duquesne to maintain, separate books and financial records.

**2013 Status:** DLC remains in compliance with this commitment.

**Commitment:** DQE Holdings will maintain corporate organizational and financial policies sufficient to permit Duquesne to continue to meet requirements to maintain its own credit ratings, separate from its parent.

**2013 Status:** Duquesne remains in compliance with this commitment.

**Commitment:** Upon request from the Commission, Duquesne shall supply copies of information that it has submitted to credit rating agencies.

**2013 Status:** DLC remains in compliance with this commitment.

**Commitment:** Unless the Commission grants approval to the contrary, for a period of three years from the closing with regard to sale of DUET's interests to Epsom, Duquesne shall not make a dividend payment to its parent if doing so causes its debt ratio as a percentage of total capitalization, as defined in Duquesne's current bank credit agreement, to exceed 60 percent, or if its debt ratio as so defined at the time of dividend declaration or payment exceeds 60 percent.

**2013 Status:** DLC remains in compliance with this commitment. Duquesne's long-term debt ratio was 40.8% at the end of 2012.

**Commitment:** DLH and its subsidiaries shall remain organized in a manner that provides corporate separation of regulated and non-regulated activities.

**2013 Status:** DLC remains in compliance with this commitment.

**Commitment:** The Applicants agree that they will continue to comply with Section 1102(a)(3) of the Public Utility Code requiring the approval of changes in control, as interpreted by the Commission's Policy Statement-Utility Stock Transfer under 66 Pa.C.S. § 1102(a)(3). Epsom agrees that it will not increase its voting interest in DQE Holdings beyond the 28.95% approved by the Commission in this proceeding unless Epsom obtains the Commission's approval of an acquisition increasing that voting interest or a determination by the Commission that approval is not required. Any acquisition of a voting interest in DQE Holdings by any parent or affiliate of Epsom shall be counted in applying the provisions of this condition.

**2013 Status:** DLC remains in compliance with this commitment. On June 14, 2012, MTAA sold its interest in DQE Holdings LLC to several of the existing Owners, including Epsom who increased its ownership interest to 31.0112%. The Epsom transaction closed only after the PUC issued a Secretarial Letter, dated May 30, 2012, stating that approval of this slight increase in Epsom's ownership interest did not require PUC approval.

**Commitment:** Epsom agrees to tender to DQE Holdings, for redemption, the Promissory Note (the "Promissory Note") from DQE Holdings to DUET3, which will be acquired by Epsom at closing, no later than 30 days after the closing. Duquesne confirms that (i) pursuant to a Transaction Agreement dated December 9, 2009, to which DQE Holdings and each of its Members is a party, all the Promissory Notes will be tendered to DQE Holdings within thirty (30) calendar days of the closing and the tender by Epsom, and (ii) upon tender, DQE Holdings will redeem all of the Promissory Notes and the proceeds of such redemptions will simultaneously be reinvested in DQE Holdings as equity capital contributions with no change in the voting interests of the Members of DQE Holdings.

**2013 Status:** Not Applicable. The redemption of the Promissory Note was completed in September 2011.

### **Reliability and Customer Service**

**Commitment:** DLC will maintain operating locations and field offices in its territory, and staffing levels, as appropriate, to provide safe and reliable service, consistent with good utility practices.

**2013 Status:** DLC remains in compliance with this commitment.

**Commitment:** DLC agrees to the following Quality of Service Plan during the period from January 1, 2012 through December 31, 2013, or if later, until the Commission order is entered in Duquesne's next base rate case. The Service Plan establishes the following metrics and reporting requirements to allow for the monitoring of the quality of service provided by DLC and to identify any significant changes to DLC's reliability and service levels. A report will be provided to the Commission, OCA, OTS (Bureau of Investigations and Enforcement) and OSBA on these metrics.

Quality of Service Plan		
Performance Area Index	Metrics Goals	Metrics Achieved 2012
<b>Reliability</b>		
SAIFI (12 Month)	1.17	0.67
CAIDI (12 Month)	108	117
<b>Customer Service</b>		
The percent calls answered within 30 seconds.	77% (for 2012) 78% (for 2013)	77%
The average busy out rate.	0.3%	0%
The average call abandonment rate.	4%	3%
Percent of residential bills not rendered once every billing cycle.	0.01%	0.00%

**2013 Status:** The above table provides the Quality of Service Plan Metrics achieved for the calendar year 2012.

**Commitment:** DLC will also include in its report its performance in the areas shown below and provide a report each year to the Commission, OCA, OTS (Bureau of Investigations and Enforcement) and OSBA.

#### **Performance Report – Residential Customers**

Measure	Metrics Achieved 2012
Number of Customer Disputes Not Issued a Report Within 30 Days	14
Termination Rate (Terminations per 1000 Residential Customers)	44.77
Justified Payment Arrangement Request Rate <sup>1</sup>	<1
Justified Consumer Complaint Rate <sup>1</sup>	11

**2013 Status:** The above table provides the 2012 performance measures for each of the areas listed.

**Commitment:** DLC agrees that, in any year during the effective period of the Service Plan, if its reliability or service levels are not equal to or better than the reporting metrics set forth in the Service Plan, DLC will provide the Commission, OCA, OTS and OSBA with a report that will identify the reasons for the variance and identify any management actions that DLC intends to undertake in response to any variation. DLC will then convene a collaborative with OCA, OTS and the OSBA to discuss such report. The Commission may, upon motion of any Party or upon its own motion, open a formal proceeding concerning reliability or service.

<sup>1</sup> These performance metrics reported by the Pa. PUC BCS in the "Quarterly Update to UCARE Report January-December 2012"

**2013 Status:** Attached to this report, as Attachment #1 is the “Duquesne Light Company Report on Operation Reliability Metrics, SAIFI and CAIDI”, which fulfills the commitment to report on reliability or service levels not equal to or better than the reported metrics set forth in the Service Plan. Duquesne Light Company will contact the OCA, OTS and OSBA within 30 days of the date of this report to discuss convening a collaborative to discuss the “Duquesne Light Company Report on Operation Reliability Metrics, SAIFI and CAIDI” report.

### **Reporting and Access to Books and Records**

**Commitment:** Upon written request, DLC and its subsidiaries will provide the Commission, the OTS, the OCA and the OSBA reasonable access to the books and records, officials and staff of DLH and its subsidiaries in Pittsburgh, Pennsylvania.

**2013 Status:** DLC remains in compliance with this commitment.

**Commitment:** Annual reporting covering 2012 and 2013 is reinstated and will end on March 31, 2014. DLC will provide an annual report to the Commission as to the status of all commitments made in this Settlement. DLC will provide the Commission and the Parties GIC’s most recent published report on the Management of the Government’s Portfolio until such time as the Commission grants approval to the contrary.

**2013 Status:** This Report constitutes the annual reporting. Attachment #2 is GIC’s most recently published report.

### **Low Income Programs**

**Commitment:** DLC will continue to fund its Customer Assistance Program (CAP) consistent with its needs analysis.

**2013 Status:** DLC will continue to fund its Customer Assistance Program (CAP) consistent with its needs analysis.

**Commitment:** DLC will agree not to transfer LIURP funds collected during the period 2012 through 2013 to other universal service programs.

**2013 Status:** DLC remains in compliance with this commitment.

**Commitment:** DLC agrees that it will make all reasonable efforts to expend LIURP funding available each calendar year. Subject to any necessary approval by the BCS, DLC will agree to raise the income eligibility needs to 200% of the federal poverty level, and/or expand outreach efforts, and/or increase the numbers of customers served. DLC will advise the universal service collaborative of the status of LIURP expenditures on a quarterly basis during the period 2012 through 2013.

**2013 Status:** DLC has maintained its compliance with the requirement. DLC expended all budgeted LIURP funding available for calendar year 2012. Organizations participated in the

Universal Services collaborative were advised of the status of the LIURP expenditures on February 13, 2012, April 20, 2012, July 17, 2012 and December 13, 2012.

### **Community Commitment**

**Commitment:** DQE Holdings and the Macquarie Consortium, and its investors, will continue to maintain DLC's corporate headquarters in Pittsburgh, Pennsylvania. All the corporate functions will be performed and maintained at such headquarters so that DLC and its management team will continue to be locally based. DQE Holdings agrees not to move DLC's headquarters outside DLC's service territory without advance approval of the Commission.

**2013 Status:** DLC's corporate headquarters remains in Pittsburgh, its corporate functions continue in these headquarters, and the management team is locally based.

**Commitment:** DLC agrees that it will continue to provide corporate contributions and community support in southwestern Pennsylvania at levels substantially comparable to levels provided by the Company in 2006 (for 2006 that is approximately \$2.9 million) through May 31, 2014.

**2013 Status:** This commitment is measured on a twelve month basis ending on May 31<sup>st</sup> and Duquesne Light Company will provide contributions and community support that are substantially comparable to the \$2.9 million level during the current period.

**Commitment:** For a period of 5 years, Duquesne will match customer contributions to the Dollar Energy Fund with Shareholder dollars up to \$375,000. This was extended for two years beyond the originally agreed-upon five years, for a total of seven years from the merger closing (May 31, 2007). For this revised period, DLC will contribute \$375,000 annually to the Dollar Energy Fund and attempt to obtain customer matching contributions equal to that amount.

**2013 Status:** This commitment is measured on a twelve month basis ending May 31<sup>st</sup> and Duquesne Light Company will contribute \$375,000 to the Dollar Energy Fund during the current period.

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## Conclusion

This report fulfils Duquesne Light Company's requirement to provide an annual report to the Commission as to the status of all commitments made in the Epsom Investment/GIC Infra Holdings Purchase settlement.

Dated this 28th day of March, 2013.

Respectfully Submitted,

Duquesne Light Company

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Vernon J. Edwards  
411 Seventh Avenue  
Pittsburgh, PA 15219  
412-393-3662

Attachments

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**Attachment #1**

**Duquesne Light Company Report on  
2012 Reliability Metrics (SAIFI, CAIDI)**

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# Duquesne Light Company

## Report on 2012 Reliability Metrics

(SAIFI, CAIDI)

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# Introduction

In Section “D” (Reliability and Customer Service) of the approved settlement of the Duet Investment sale-Epsom Investment purchase agreement, Duquesne Light Company (Duquesne or Company) agreed to a quality of service plan (Service Plan) from January 1, 2012 – December 31, 2013, or if later, until the Commission order is entered in Duquesne’s next base rate case. This Service Plan established the following Reliability and Customer Service Metrics:

<b>Quality of Service Plan</b>		
<b>Performance Area Index</b>	<b>Metrics Goals</b>	<b>Metrics Achieved (2012 Results)</b>
<b>Reliability</b>		
SAIFI (12Month)	1.17	0.67
CAIDI (12 Month)	108	117
<b>Customer Service</b>		
The percent calls answered within 30 seconds.	77% (for 2012)	77%
	78% (for 2013)	
The average busy out rate.	0.30%	0.00%
The average call abandonment rate	4.00%	3.00%
Percent of residential bills not rendered once every billing cycle	0.01%	0.00%

Duquesne Light Company is to provide a report to the Commission, OCA, OSBA and OTS (now I&E) if any of these service levels are not equal to or better than the reporting metrics set forth in the Service Plan.

During 2012, Duquesne Light Company’s service levels were equal to or better than the Service Plan Metrics except for the CAIDI Reliability Measure. This report provides Duquesne Light Company’s analysis of the Reliability Metrics and variance per the Merger Agreement.

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## SAIFI, SAIDI & CAIDI Analysis

### SYSTEM AVERAGE INTERRUPTION FREQUENCY INDEX (SAIFI) *Lower is Better*

*What does it Measure: The average number of outages experienced by Customers during a year.*

The System Average Interruption Frequency Index (SAIFI) indicates the average number of times that a typical customer experienced an outage over a period of time, typically a year. SAIFI is calculated by summing all customers that were interrupted by outages and dividing the sum by the total number of customers served. Customers that had multiple outages get added into the numerator multiple times to account for every outage. The denominator is the total number of customers on our system. Duquesne Light uses KVA (average load of a customer) rather than customers to calculate SAIFI, but the results are the same. SAIFI is unitless and represents the average number of outages that a typical customer experienced over the measurement period. When analyzing or comparing SAIFI results, lower numbers are better. Values that are less than one indicate that not all customers experienced an outage during the measurement period.

$$\text{SAIFI} = \frac{\sum \text{Customers Interrupted}}{\text{Total Customers}} = \frac{\sum \text{KVA Interrupted}}{\text{System KVA}} = \text{Interruptions per Customer}$$

*Results for the year 2012 - DLC had a SAIFI Target of 1.17 and it achieved a SAIFI Result of 0.67 meaning that 33% of Duquesne Light's customers experienced no outages at all during 2012. This is the best SAIFI result obtained by DLC in the last 18 years, as far back as our current Outage Reporting System goes.*

### SYSTEM AVERAGE INTERRUPTION DURATION INDEX (SAIDI) *Lower is Better*

*What does it Measure: The average number of minutes of service interruption that a typical customer experiences during a year.*

The System Average Interruption Duration Index indicates the total duration of an outage for an average customer during a given time period. SAIDI is calculated by summing all customer-minutes of outage time during the measurement period and dividing this sum by the total number of customers. Duquesne Light uses KVA rather than customers to calculate SAIDI, but the results are the same. SAIDI indicates the Outage Duration Time that an average customer saw during the measurement period. When analyzing or comparing SAIDI results, lower numbers are better. If SAIDI is unchanged for a subsequent period, the average customer can expect outages that total to SAIDI minutes in length.

$$\text{SAIDI} = \frac{\sum \text{Customer Outage Minutes}}{\text{Total Customers}} = \frac{\sum \text{KVA-Minutes Interrupted}}{\text{System KVA}} = \text{Length of an Outage that an Average Customer Sees}$$

*Results for the year 2012 - DLC had a SAIDI Target of 126 and it achieved a SAIDI Result of 79 meaning that the average Duquesne Light customer had an outage of only 79 minutes in duration which was considerably better than the 126 minute target for 2012. This is the best SAIDI result obtained by DLC in the last 18 years.*

### CUSTOMER AVERAGE INTERRUPTION DURATION INDEX (CAIDI)

*What does it Measure: The average duration of an outage in minutes for customers that experienced an outage during a given time period, usually a year.*

The Customer Average Interruption Duration Index indicates the average duration of outages for those customers that had an outage over a given time period, typically a year. CAIDI is calculated by summing all

customer-minutes of outage time during the measurement period and dividing this sum by the total number of customers that experienced an outage. Duquesne Light uses KVA and KVA-Minutes Interrupted rather than customers to calculate CAIDI, but the results are the same. Customers that did not have an outage are not included in this calculation.

$$\text{CAIDI} = \frac{\sum \text{Cust. Outage-Minutes}}{\sum \text{Customers Interrupted}} = \frac{\sum \text{KVA-Min Interrupted}}{\sum \text{KVA Interrupted}} = \frac{\text{SAIDI}}{\text{SAIFI}} = \text{Avg Length of a Customer Outage for Customers that had an Outage}$$

*Results for year 2012 - DLC had a CAIDI Target of 108 and it achieved a CAIDI Result of 117 meaning that a Duquesne Light customer that had an outage in 2012 had an outage of 117 minutes in duration on average. This was 9 minutes longer than the 108 minute target. However, this result is misleading and skewed because 33% of Duquesne Light customers never experienced even one outage during 2012.*

### **How do SAIFI, SAIDI and CAIDI Interact? Sometimes improvements made to SAIFI & SAIDI can hurt CAIDI**

In 2012, Duquesne had 27% fewer customer outages than in 2011. Also in 2012, DLC had 20% less total customer outage time than in 2011. This is reflected in Duquesne achieving its lowest SAIFI and SAIDI results in the last 18 years. How then can substantial improvements in both outage frequency and outage duration produce 2012 CAIDI results that are worse than results obtained in 2011? The answer lies in the ratio of improvement between SAIFI and SAIDI because CAIDI = SAIDI / SAIFI. SAIFI was improved (reduced) more than SAIDI by a ratio of 20% to 27% and this resulted in CAIDI being higher in 2012. In practical terms, it means that Duquesne improved more in eliminating outages than in shortening outages. The following example demonstrates this.

If only one customer out of all of Duquesne's 580,000 customers had one two-hour outage during the entire year, the CAIDI reliability number would be 120 minutes and this would be worse than the target metric of 108 for CAIDI. However, even with a CAIDI number of 120 in this example, overall customer reliability would be considered excellent.

For Duquesne Light, continued advancement in Automated Distribution SCADA enabled distribution operators to remotely isolate and reroute power around faulted feeder sections faster than ever before. This has had a very positive effect on both SAIFI and SAIDI but it improves SAIFI more than SAIDI which has a negative effect on CAIDI. In practical terms, there were fewer short outages left to balance out the longer repair components of the outage restoration process.

### **What Caused the Unprecedented High CAIDI Results in 2012?**

Duquesne has closely examined the outages that occurred in 2012 along with the subsequent outage restoration process that followed each event to better understand what was different in 2012 with a focus on how to improve from this point forward. Throughout 2012, it appeared that overall reliability was excellent based on SAIFI and SAIDI performance. However, despite a record low number of outages, CAIDI indicates that the fewer outages that occurred were not restored as quickly as in previous years.

The three biggest contributors to customer outage duration (CAIDI) in 2012 were falling trees, storms and cable failures. These naturally tend to be the worst types of outages to repair in terms of required restoration time. Together these three outage root-cause problems accounted for 56 % of all customer outage minutes in 2012. Also, while there were no major storms in 2012, many of the outages occurred on 26 "Storm" event days, which strained restoration resources and extended these outages longer than normal.

Outages caused by falling trees generally produce additional damage such as wire downs, broken poles, broken cross arms and/or damaged insulators and often create unsafe conditions. Before this damage can be repaired, tree crews generally have to remove the fallen tree(s) and clear the way for repair crews. This extends the repair process and delays customer restoration.

Cable failure outages also require a more lengthy restoration process because of the time required to 1) find, clear and ground the faulted cable section, 2) make the worksite safe, 3) make actual repairs or install and splice a new cable section and 4) test and reenergize the cable. Underground cable repairs also generally require crews to work in confined areas that may need special traffic restrictions setup or permits issued before actual work can begin. There is generally less flexibility in rerouting power around a failed cable than with non-cable (overhead) construction and this increases outage time to a larger percentage of the customers initially affected.

### **Proposed Action Plan to Improve CAIDI**

Based on analysis of the Outage Data for 2012, Duquesne Light is developing a plan of action that is intended to reduce the Customer Average Interruption Duration Index for 2013 and beyond. However, we also suspect that CAIDI results for 2012 were somewhat of an anomaly because we have successfully met and exceeded our CAIDI target for the previous 18 years without exception and we had the best performance ever in 2012 in terms of SAIFI and SAIDI results.

1. **Vegetation Management Process** - Trees are typically the single biggest contributor to customer outage-minutes within Duquesne Light's service territory. While tree grow-in outages are well-managed with scheduled maintenance pruning efforts, fall-in outages due to tree failures are more challenging to manage because of the heavy tree density, shallow soils, and steep terrain typically found in the Pittsburgh area. DLC's Vegetation Management Department investigates the majority of tree-related outages to analyze and identify the reason for tree failures. DLC schedules maintenance for its rights-of-way every 4 to 5 years. During these maintenance efforts, line clearance work including tree pruning, tree removal, hazard tree removal, brush cutting and herbicide applications are performed as specified to provide customers with safe and reliable service, VM is currently piloting a Rights-of-Way (ROW) Enhancement Program which is intended to improve clearance and reliability through targeted tree pruning, tree removal and facility redesign. Locations for these enhancements will be determined through the analysis of outage data combined with VM field investigations and assessment. In some cases, acquisition of additional legal ROW may be recommended to maintain circuit reliability. Often, a mix of all of these approaches is utilized to prevent falling trees from affecting DLC facilities and to reduce the duration of customer outages.
2. **Improved Restoration Process** - Storms are the second biggest cause of outages for Duquesne Light. A Service Restoration Team has already been established to identify opportunities and implement appropriate changes to enhance restorative efforts. The focus will be to improve DLC's ability to prioritize restoration work more effectively so that customers are restored faster through the coordinated efforts of the entire team. The intent is to reduce average customer outage time, which will directly improve CAIDI performance. This should be especially beneficial during storms.
3. **Improved Analysis of Cable Failure Outages** - Cable failures were the third largest cause of outages for Duquesne Light in 2012. For many reasons underground cable outages generally are lengthy for customers that cannot be switched to another circuit while the cable is being repaired and this directly impacts CAIDI and is a hardship for the customers affected. Duquesne has initiated a program in its Asset Management Department to utilize Cable Outage Reports from the Outage Database to target cable inspections/repairs/replacement on circuits before they cause serious

reliability problems. In addition, Duquesne is investigating the feasibility of installing a temporary portable generator for larger customers/groups of customers that are affected by a cable outage that will require a lengthy repair.

## Summary

*By all measurements, Duquesne Light customers experienced some of the highest levels of service reliability throughout 2012 (Best SAIDI and SAIFI performance during the 18 years we have measured it). Duquesne Light's continuous operations improvement processes coupled with its highly automated and more intelligent Supervisory Control and Data Acquisition (SCADA) enable trained operators to prevent some outages, quickly identify outages that do occur, and quickly reroute circuits or restore service to customers. Fortunately too, Duquesne had a relatively mild year relative to major storms and escaped the severe storms that plagued utilities in the more eastern portions of the State.*

As explained in this report, our CAIDI metric was above the targeted threshold number stated in our settlement agreement. This metric however has been significantly skewed toward the negative side due to the exceptionally good SAIFI performance this year. It is for that exact reason, the conflicting relationship between SAIFI and CAIDI, that Duquesne had both of these measures stated in the settlement agreement.

Duquesne Light Company will contact the OCA, OTS and OSBA within 30 days of the date of this report to discuss convening a collaborative to discuss the "Duquesne Light Company Report on Operation Reliability Metrics, SAIFI and CAIDI" report.

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*Attachment #2*

**GIC Annual Report of the  
Management of  
the Government's Portfolio**

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Report on the Management of  
the Government's Portfolio  
for the Year 2011/12

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The annualised rolling 20-year real rate of return on 31 March 2012 was 3.9%, unchanged from 31 March 2011.

In view of the increasingly complex financial landscape, two new board committees were set up on 1 January 2012, to supplement the ongoing board committees looking at investment strategies and risk. The first is the Investment Review Committee. It reviews GIC's investment process, with particular attention to large investments. The second is the Audit Committee which strengthens the oversight of GIC's internal controls for compliance and the financial reporting and disclosure process.

GIC set up the International Advisory Board on 1 October 2011 chaired by our Senior Advisor for Lee Kuan Yew, with board director Willie Cheo Hean as its deputy chairman. The Advisory Board provides perspectives on the future, in particular, global investment opportunities and businesses and new growth opportunities.

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Report on the Management of  
the Government's Portfolio  
for the Year 2011/12

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# Principles

## **PRUDENCE**

We exercise prudence and sound judgement and take a considered approach to managing risks as we seek to deliver sustainable, superior 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 clients or of GIC.

We stress teamwork within and across departments, and with our clients 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.

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### **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.

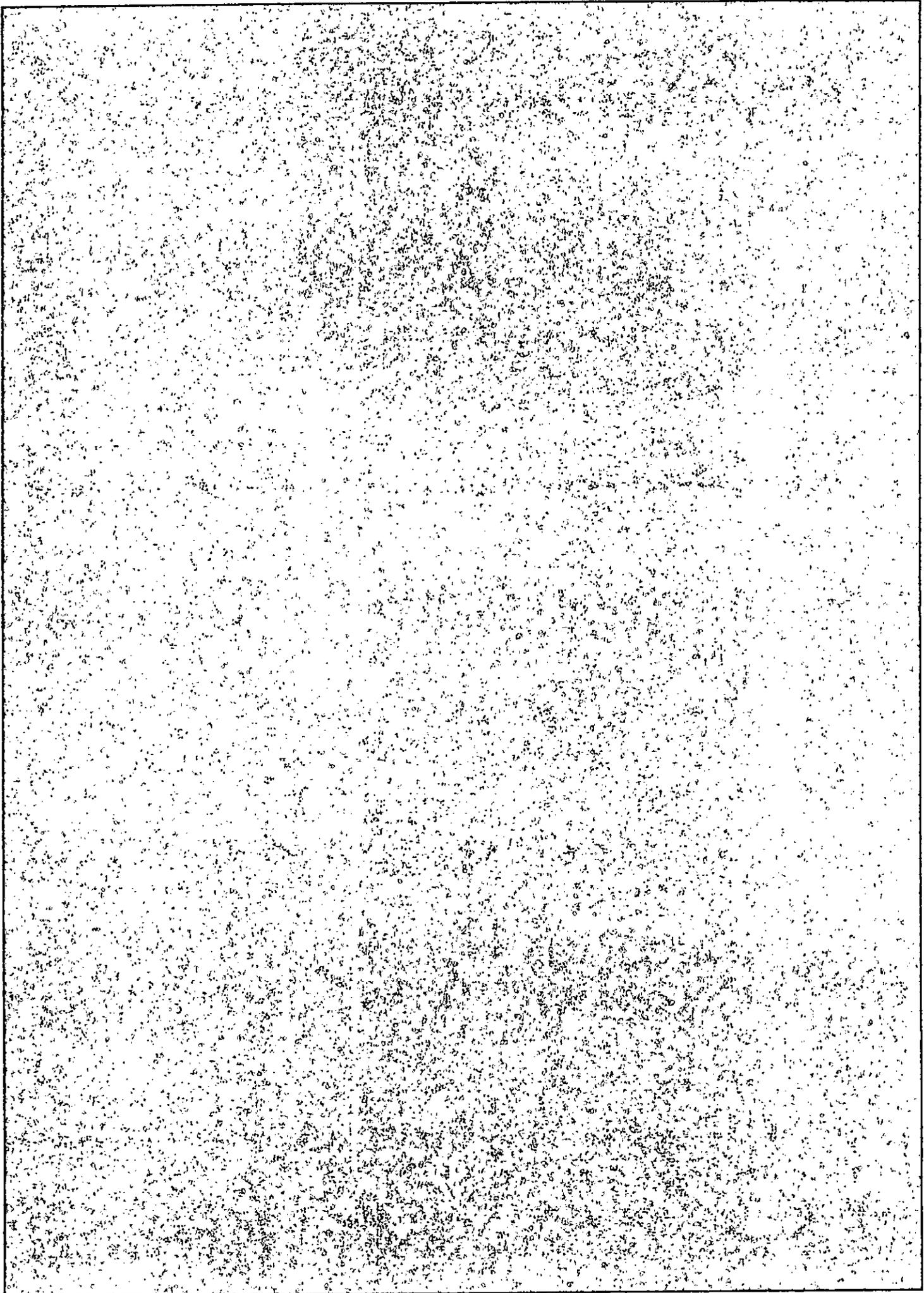
### **EXCELLENCE**

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 his best in every situation. We harness the creativity and imagination of our people and our business partners for sustainable superior results.

## THE GIC PRIMER

Our responsibility is to preserve and enhance Singapore's foreign reserves. 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.



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# OVERVIEW BY THE GROUP PRESIDENT

## RESULTS

The market experienced many twists and turns over the last year, with the Eurozone debt crisis, the US economic slowdown and the uncertainties in the emerging markets at times pushing the markets one way, and at times the other, but all loaded with uncertainties and unpredictables. We cannot expect the high economic growth rates of the 1980s up to the Global Financial Crisis in 2008, to return in the near future. The world today is so interconnected that policy decisions and market actions in any region evoke almost immediate responses and reactions elsewhere. On the other hand, short-term concerns and daily headlines which often affect the mood of investors and their confidence for the future, present special opportunities for long-term investors like the GIC.

The Government's mandate to GIC is to achieve a good, sustainable real rate of return over a 20-year time horizon. GIC's 20-year annualised real return for financial year 2011/2012 was 3.9%, the same as the previous year. This Annual Report also gives GIC's 5-year and 10-year performance figures, in addition to the 20-year figures, to give a sense of GIC's medium-term performance while underlining that it is the long-term performance which defines GIC uniquely in its role as the investment manager for Singapore's foreign reserves.

The multi-asset class expertise and long investment horizon allows GIC to pursue investment strategies which deliver extra returns because we can take advantage of our staying power and stick with the fundamentals in investing without being distracted by short-term considerations. To explain this in some detail, we are including two feature articles in this year's report which offer specific insights on GIC's approach to investing. One discusses the merits of long-term investing and how this is practised

in GIC. The other article describes how GIC goes about selecting external fund managers; they play a significant role in the Government's portfolio managing, at times, up to 20% of the portfolio.

## GOVERNANCE

### New Board Committees

In view of the increasingly complex financial landscape, two new board committees were set up on 1 January 2012, to supplement the on-going board committees looking at investment strategies and risk. The first is the Investment Review Committee, chaired by Mr Peter Seah, to review GIC's investment process, with particular attention to large investments. The second is the Audit Committee, chaired by Mr Chew Choon Seng, to strengthen oversight of GIC's internal controls for compliance and the financial reporting and disclosure process.

### International Advisory Board

GIC set up the International Advisory Board on 1 October 2011 chaired by our Senior Advisor Mr Lee Kuan Yew, with board director Mr Teo Chee Hean as its deputy chairman. The other members of the board are Mr G Leonard Baker Jr, Mr Léon Bressler, Sir Howard J Davies, Mr Steven J Green, Dr Martin L Leibowitz and Mr Deepak Parekh, all of whom had served as directors of GIC companies or advisors to GIC board committees. The Advisory Board provides perspectives on the future, in particular, global investment trends, emerging asset classes and new growth opportunities.

## PEOPLE

### Appointments and Retirements

Mr Lim Chow Kiat was appointed Deputy Group Chief Investment Officer, concurrent with his position as President of

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GIC Asset Management, on 1 April 2012. He will assist the Group Chief Investment Officer in driving group investment policies and strategies. Mr Lim was inducted into the Fixed Income Analyst Society Inc. Hall of Fame in April 2012 for his contributions to the *advancement of fixed income analysis and portfolio management*. Dr Leslie Teo succeeded Mr Aje Saigal as Director of Economics and Investment Strategy on 1 February 2012, concurrent with his position as Chief Economist.

Four Managing Directors retired in the first half of 2012. Mr Aje Saigal retired as Director of Economics and Investment Strategy on 31 January 2012. Ms Vivien Chen retired as Chief Administrative Officer on 30 June 2012. Mr Saigal and Ms Chen were GIC's pioneers, having been with the company since its early years in the 1980s and seen through critical changes over the years. Also on 30 June 2012, Mr Michael Carp retired as Global Head, Real Estate Investments in GIC Real Estate, and Ms Adelene Tan retired as Head, External Managers Department in GIC Asset Management. We thank them all for their invaluable contributions to the development of GIC.

Six new Managing Directors were appointed on 1 July 2012.

#### **Excellence**

*GIC aims to be the best that we can be. We recently unified all existing platforms for ideas contribution, recognition efforts and training resources, to empower staff and to reinforce the culture of innovation and openness.*

New organizational units have been established. The Integrated Strategies Group brings together private and public market expertise in the pursuit of absolute returns which can involve all aspects of the capital structure. The Global Trading Unit has

been established to have a common trading platform for all public market instruments. The Enterprise Process Excellence Unit has been set up to pursue strategic process improvements which span several departments.

#### **LOOKING AHEAD**

There will be greater uncertainties in the future. But we are helped by our global presence, a wide network of contacts across investee companies, counterparties and regulators, a diversified portfolio, a long time horizon, and the ability to deploy capital responsively. Our greatest advantage is that GICians are united and guided by a set of enduring principles which focuses on our commitment to our clients, the development of our people and our anticipation of the future.

To all GICians and to the GIC Board, I wish to say thank you for all the encouragement, leadership and support which have enabled GIC to successfully navigate the year past. The spirit of OneGIC is even more critical for the future as we strive to invest well and contribute to the well-being of current and future generations of Singaporeans.



**LIM SIONG GUAN**

Group President

July 2012

# INVESTMENT REPORT BY THE GROUP CHIEF INVESTMENT OFFICER

## MARKET ENVIRONMENT

Risk aversion returned to global financial markets in the last financial year ending 31 March 2012. The Eurozone crisis highlighted the downside risks to a global economy struggling against private sector debt-deleveraging in the developed economies. Equity markets recovered modestly when the Federal Reserve reiterated its determination to keep short- and long-term interest rates extremely low for a prolonged period, and the European Central Bank provided almost 1 trillion euros of three-year liquidity at 1% interest to European banks.

Developed equity markets ended the year broadly unchanged. The rise in the US market made up for the decline in European stocks, but emerging markets suffered negative returns. The flight to safety among investors boosted bond returns particularly of US Treasuries and German Bunds.

In the Government's portfolio, positive returns from bonds and real estate offset the negative returns from emerging markets and natural resource equities.

## LONG-TERM INVESTMENT RESULTS

The annualised rolling 20-year real rate of return on the portfolio as of the year ended 31 March 2012 was 3.9%, unchanged from 31 March 2011.

This means that over a 20-year period, GIC has generated a return averaging 3.9% per year on top of having protected the value of the portfolio against global inflation.

The Government's investment mandate emphasises that GIC should invest the portfolio with a long-term orientation. This is why the primary metric for evaluating GIC's investment performance is the rolling 20-year real rate of return.

Investing for long-term returns is a key competitive advantage for GIC over other investors. This year's report includes a feature article that discusses the long-term investing approach and how it is practised in GIC. Successful investing, especially for a large portfolio, requires a suitably long-term horizon because economic and corporate changes often unfold across market cycles and not within a market cycle.

## MEDIUM-TERM INVESTMENT RESULTS

Beginning with last year's report, we are also providing nominal rates of return in USD terms over 5- and 10-year periods, in addition to the 20-year real and nominal rates of return. The 5- and 10-year investment results give a sense of the ongoing performance of the portfolio and can serve as intermediate trackers of how GIC's long-term results are evolving. Table 1 shows that as of 31 March 2012, the Government's portfolio had annualised nominal rates of return in USD terms of 3.4% over 5 years, 7.6% over 10 years and 6.8 % over 20 years.

## COMPOSITE PORTFOLIOS

To put GIC's investment results into perspective, we have included performance data on two composite portfolios. The first comprises 60% global equities and 40% global bonds ("60:40 global portfolio") and the second comprises 70% global equities and 30% global bonds ("70:30 global portfolio"). The nominal rates of return of the composite portfolios are computed from two market indices – the MSCI All Countries Gross Total Return Index for global equities and the Barclays Global Aggregate Bond Index for global bonds.

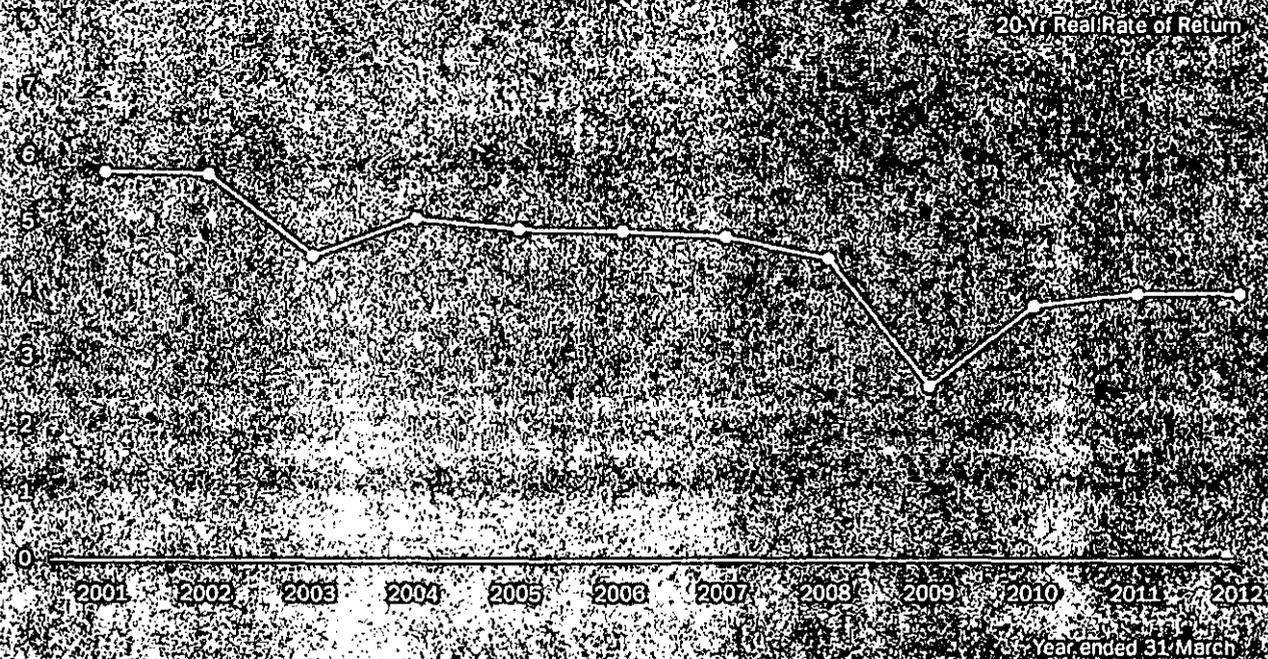
These composite portfolios are generally accepted as being representative of the strategic asset allocation of large global institutional investors such as pension funds and sovereign wealth funds. However, it should be noted that the nominal rates of return on the 60:40 and 70:30 global portfolios are not benchmarks that drive GIC's investments.

Table 2 shows the Government's portfolio returns alongside the composite portfolios' for time periods of 5 years, 10 years and 20 years to 31 March 2012.

Investment returns should be viewed in the context of risk. Table 3 shows the risk of the three portfolios, with risk defined as the standard deviation of monthly returns.

For the 5- and 10-year periods, the Government's portfolio had higher returns and lower risk than both composite portfolios. For the 20-year period, the Government's portfolio had a lower return and lower risk. This was because in the first decade of the 20-year period, the portfolio was more conservatively invested with more cash and bonds. GIC's diversification into alternative and private asset classes took place in the last ten years.

## CHART 1: ANNUALISED ROLLING 20-YEAR REAL RATE OF RETURN OF THE GOVERNMENT'S PORTFOLIO



### TABLE 1: PERFORMANCE OF THE GOVERNMENT'S PORTFOLIO

ANNUALISED NOMINAL RATES OF RETURN IN USD FOR PERIOD ENDED 31 MARCH 2012	5-YEAR	10-YEAR	20-YEAR
<b>GOVERNMENT'S PORTFOLIO</b>	3.4%	7.6%	6.8%

### TABLE 2: PERFORMANCE OF GOVERNMENT AND COMPOSITE PORTFOLIOS

ANNUALISED NOMINAL RATES OF RETURN IN USD FOR PERIOD ENDED 31 MARCH 2012	GOVERNMENT'S PORTFOLIO	60:40 GLOBAL PORTFOLIO	70:30 GLOBAL PORTFOLIO
<b>5-YEAR</b>	3.4%	3.2%	2.5%
<b>10-YEAR</b>	7.6%	6.8%	6.6%
<b>20-YEAR</b>	6.8%	7.4%	7.5%

### TABLE 3: ANNUALISED VOLATILITY OF GOVERNMENT AND COMPOSITE PORTFOLIOS

ANNUALISED VOLATILITY FOR PERIOD ENDED 31 MARCH 2012	GOVERNMENT'S PORTFOLIO	60:40 GLOBAL PORTFOLIO	70:30 GLOBAL PORTFOLIO
<b>5-YEAR</b>	12.9%	14.4%	16.1%
<b>10-YEAR</b>	10.4%	11.5%	13.0%
<b>20-YEAR</b>	9.0%	10.2%	11.5%

The rates of return of the Government's portfolio are computed on a time-weighted basis, net of costs and fees incurred in the management of the portfolio. On the other hand, the rates of return of the composite portfolios are provided on a gross basis, that is, without adjustment for costs and fees.

# INVESTMENT REPORT BY THE GROUP CHIEF INVESTMENT OFFICER

## ASSET MIX

Table 4 shows the asset class distribution of the portfolio as of 31 March 2012:

*The allocation to cash rose from 3% to 11%. Due to the heightened uncertainty in global markets, we allowed the cash inflow from investment income and fund injection to accumulate during the year in preparation for better investment opportunities. Consequently, the exposure to public equities fell from 49% to 45%. We reduced the allocation to bonds because bond yields in the developed markets had been pushed down to abnormally low levels by the flight to safe assets and central bank intervention.*

## GEOGRAPHICAL DISTRIBUTION

The geographical distribution of assets was broadly unchanged during the year. Within Europe, the exposure to the PIIGS<sup>2</sup> markets was 1.4% on 31 March 2012 and was invested largely in real estate and selected equities in Italy and Spain.

## OUTLOOK

For a large portfolio to earn returns above inflation over a long investment horizon, it must have significant exposure to equity and equity-like assets. The key risks to the portfolio are thus political and economic developments which impact equity returns.

Looking ahead, we assess that the investment environment will be characterised by a global economy struggling to return to sustainable growth.

The developed economies will continue to be weighed down by an extended period of debt-deleveraging. In Europe, the debt crisis has spread beyond the periphery to the larger Spanish and Italian economies. There is still a risk of disruptive events in the Eurozone, and prolonged weakness in economic growth. In the United States, the fragile economic recovery could be aborted by automatic spending cuts and tax increases if political gridlock continues beyond the 2012 elections with no compromise on a long-term plan for reducing the public deficit.

Growth in the emerging economies, particularly China, is also slowing. A cyclical slowdown in China is necessary for its economy to consolidate to a more sustainable growth trajectory. But this slowdown coincides with the problems in the developed economies. It will thus weaken global business confidence and also impact the commodity-producers.

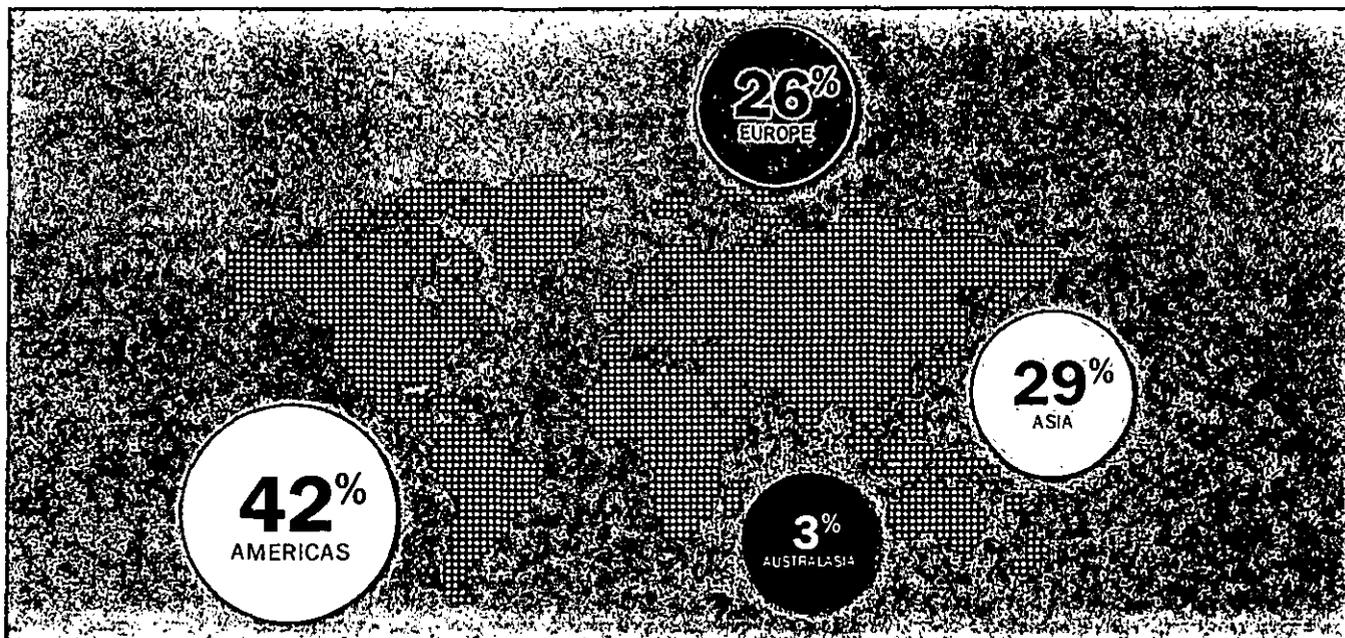
The medium-term investment outlook is therefore challenging. GIC will continue to invest based on sound fundamentals and where appropriate, take calculated risks in order to reap long-term gains.



**NG KOK SONG**

Group Chief Investment Officer

<sup>2</sup> Portugal, Ireland, Italy, Greece and Spain



**TABLE 4: ASSET MIX OF THE GOVERNMENT'S PORTFOLIO**

31 MARCH 2012

31 MARCH 2011

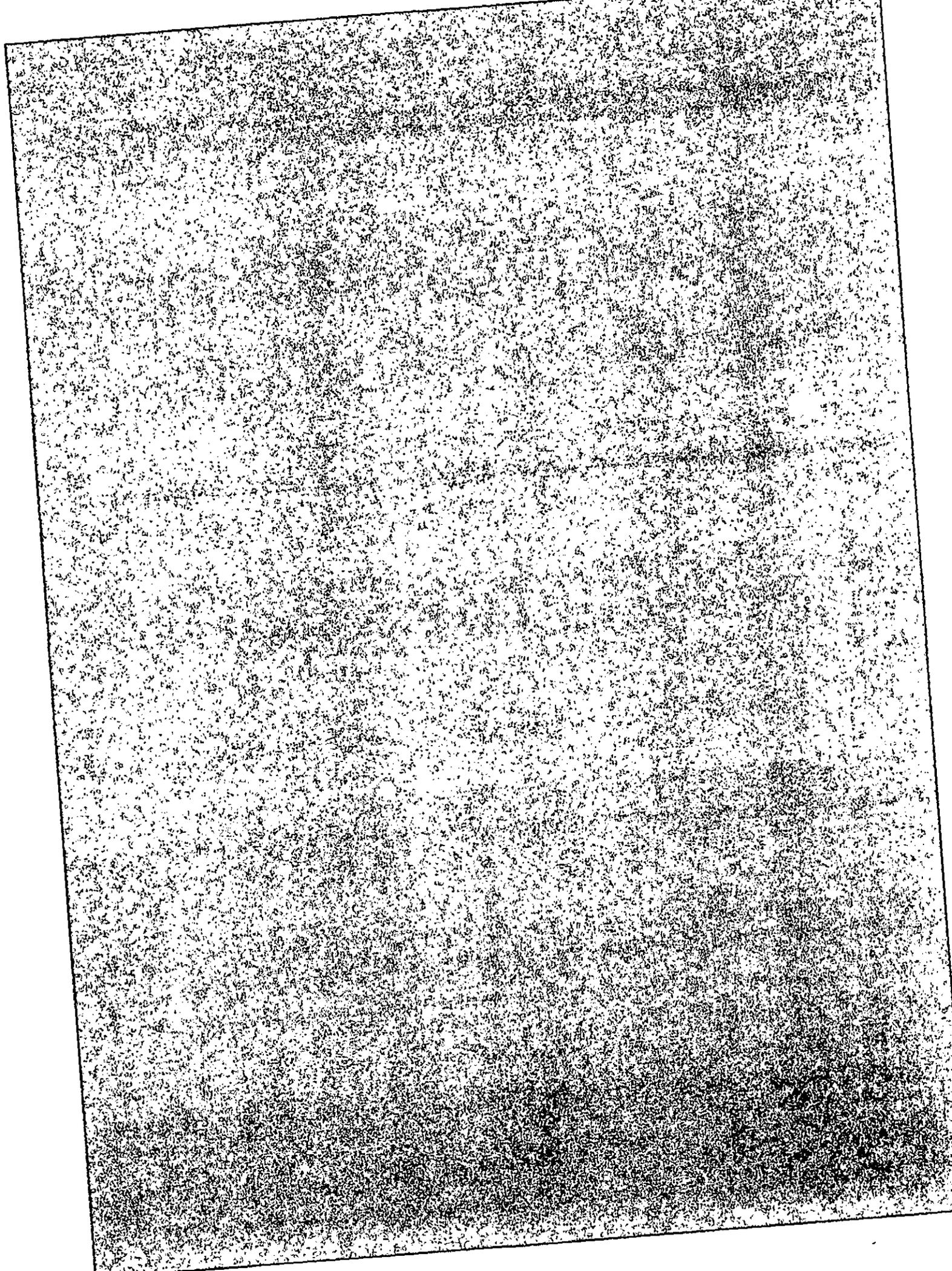
<b>PUBLIC EQUITIES</b>	Developed Markets	30	45	34	49
	Emerging Markets	15		15	
<b>FIXED INCOME</b>	Nominal Bonds	15	17	20	22
	Inflation-Linked Bonds	2		2	
<b>ALTERNATIVES</b>	Real Estate	10	27	10	26
	Private Equity & Infrastructure	11		10	
	Absolute Return Strategies	3		3	
	Natural Resources	3		3	
<b>CASH &amp; OTHERS</b>		11	11	3	3
<b>TOTAL</b>		<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

**TABLE 5: GEOGRAPHICAL DISTRIBUTION OF THE GOVERNMENT'S PORTFOLIO**

31 MARCH 2012

31 MARCH 2011

<b>AMERICAS</b>	United States	33	42	33	42
	Latin America	4		4	
	Others	5		5	
<b>EUROPE</b>	United Kingdom	9	26	9	28
	Eurozone	11		12	
	Others	6		7	
<b>ASIA</b>	Japan	12	29	11	27
	North Asia <sup>3</sup>	13		12	
	Others	4		4	
<b>AUSTRALASIA</b>		3	3	3	3
<b>TOTAL</b>		<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>



# MANAGING THE PORTFOLIO

CIC's mission is to preserve and enhance the international purchasing power of the reserves placed under our management by the Government. The aim is to achieve good long-term returns above global inflation over the investment time horizon of 20 years.

The CIC Board decides on a policy portfolio which specifies the allocation of funds to eligible asset classes. CIC investment professionals seek to add value, and may deviate from the policy portfolio within pre-determined operating ranges, to achieve higher risk-adjusted returns.

# MANAGING THE PORTFOLIO

## INTRODUCTION

The investment process begins with the policy portfolio, which defines the asset classes that we invest in and our allocation of funds to these asset classes.

**The purpose is to meet the investment return objective within the risk tolerance, determined by the Government as owner of the funds.**

The policy portfolio is the result of both quantitative analysis and judgment. The quantitative analysis of historical data generates an initial set of assumptions for key variables, such as the expected long-term return and risk of various asset classes and their correlations with one another. These assumptions must then be evaluated qualitatively. They are adjusted for perceived structural changes in the global environment and capital market behaviour, taking into account operating constraints such as liquidity, market capacity, as well as the probability of extreme risk events. The portfolio is then stress-tested to ensure its compliance with the risk parameters that have been set.

The aim is to optimise distribution of investment funds to the asset classes. Operating ranges are specified to accommodate acceptable deviations arising from short- and medium-term volatility and technical causes. In addition, we have created a facility for a medium-term asset allocation strategy to give management, with the approval of the Board, the latitude to make calibrated departures from the policy portfolio in response to market conditions.

## MANAGING PERFORMANCE

The investment process starts with the design of the policy portfolio. Directed by the group chief investment officer, the economics and investment strategy department undertakes the analyses and groundwork. Their recommendations are presented to and discussed with the investment strategies committee. Once endorsed, these recommendations are submitted to the Board for approval. The policy portfolio is kept under review but is not changed frequently.

Managers are fully accountable for the performance of their portfolios. Their decisions must comply with prescribed guidelines and limits of the Investment Mandate. We evaluate our performance in three ways: whether we achieve a reasonable rate of return above global inflation for the total portfolio; how each investment professional or team performs against specific market benchmarks or absolute return targets; and how our managers' results compare with those of their peers in the industry.

**Our performance measurement is focused on long-term investment results, based on a disciplined and rigorous investment and risk management process.**

*The first feature article at the end of the chapter discusses the long-term investing approach and how this is practised in GIC.*

## IMPLEMENTATION

GIC's investment professionals translate asset class allocations into investments across public markets, real estate, private equity and infrastructure in more than 40 countries.

**With a long-term orientation, our patient capital allows us to withstand periods of market volatility and benefit from holding investments that take longer to realise their potential.**

While we are open to investing in all countries outside Singapore, we do not invest in those the United Nations Security Council has imposed sanctions against. Where appropriate, we exercise ownership rights in the investments to protect the financial interests of the assets under our management.

## PUBLIC MARKETS

GIC invests in publicly-traded markets, including public equities in both developed and emerging markets, natural resources, absolute return strategies (hedge funds), fixed income, cash and currencies. We manage a well-diversified portfolio to produce sustained, superior risk-adjusted performance.

Traditional asset class investments in equities and fixed income make up the bulk of the portfolio's investments in public markets. *These are complemented by absolute return strategies which provide prospects for us to generate long-term real returns largely independent of broad market movements.*

In public markets, our investment decisions are based on an assessment of long-term fundamentals. Specialisation and robust risk management, with clear accountability at every level, characterise the investment process. The aim is to ensure that the risk taken is consistent with our investment goals. A risk budgeting discipline allocates capital to investment teams according to their track record of securing good returns from higher-risk investments. The budget is monitored closely to ensure that risk is properly diversified and managed.

We evaluate the performance of our investment teams against relevant market benchmarks such as the MSCI and Barclays Global Bond indices.

### **Equities**

GIC pursues both active and passive management strategies in equity investing. We have an established team of in-house research analysts and experienced portfolio managers. They conduct in-depth due diligence and research that enable us to identify undervalued stocks with the potential to generate good returns over the long term. Our investment professionals have a wide network of corporate and industry contacts with diverse insights on companies in the investment universe.

### **Fixed Income**

Fixed income investments aim to generate steady returns, provide a liquidity reserve to support portfolio management activities, and enhance capital preservation through diversification. Our portfolio managers employ a range of investment strategies in managing fixed income investments including yield curve analysis, credit, interest-rate duration and currency management to add value to the portfolio.

### **PRIVATE MARKETS**

*Our allocation to alternative asset classes stems from their potential to generate high long-term real returns and their role of diversification in the portfolio.*

**GIC's long investment horizon puts us in a good position to exploit market inefficiencies through the active management of these assets.**

### **Real Estate**

GIC is an early entrant among institutional investors in real estate. Investments include traditional private real estate (such as brick-and-mortar assets), public equities (such as real estate operating companies), real estate investment trusts and real estate-related debt instruments. The real estate assets span multiple property sectors, including office, retail, residential, industrial and hospitality.

Real estate investing is governed by guidelines covering countries and regions, property asset types and sectors to ensure the portfolio meets both investment and risk objectives. Asset-specific conditions and risk are among the factors that influence investment decisions. GIC actively manages the assets to generate income and enhance market value through tenant management, market positioning, leasing and capital improvements. In this team-based approach, an appropriate range of real estate and capital market skills is applied to each investment.

### **Private Equity**

GIC's private equity universe includes buyouts, venture capital and special situations such as mezzanine debt, distressed debt and secondary fund investments. We invest both directly in companies as well as through funds. The direct investment programme is focused on taking minority equity positions as well as providing mezzanine financing in buyouts. Our funds strategy aims to identify and invest with leading private equity and venture capital 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.

## Infrastructure

GIC's interests in infrastructure include user-demand assets such as airports, seaports and highways, regulated assets such as those in water and power distribution, and competitive assets such as power plants. Our primary strategy is to invest directly in operating 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.

## EXTERNAL MANAGERS

**GIC partners top-tier fund management institutions that offer access to opportunities, specialised capabilities, in-depth analysis and experience which complement our internal management capability.**

We invest in a variety of funds including real estate funds, private equity funds, bond funds, index funds and hedge funds. In addition to the portfolios managed within GIC, we place out discretionary mandates to external fund managers in a wide range of asset classes such as global fixed income and global equities.

While external managers are responsible for their mandates, GIC remains fully accountable for the overall performance of the portfolio. We consistently assess them relative to expected returns, risks and guidelines.

We have included at the end of the chapter a feature article describing how GIC selects and monitors its external managers in the public markets, and the benefits they have brought to GIC.

## MANAGING RISK

Identifying and managing risk is an integral part of management responsibility at all levels in GIC. The risk management framework sets the accountability and responsibility parameters for risk-taking. In addition to the Board and its risk committee, different bodies and groups are specifically charged with the task of identifying, analysing, monitoring, reporting and on-the-ground managing of risks.

**Our approach to risk management is three-pronged: managing portfolio risk to ensure that risk taken is commensurate with the expected returns and consistent with our mandate; managing process risk so that investment decisions are implemented well; and managing people risk.**

## MANAGING PORTFOLIO RISK

The Board approves the operating bands for asset classes within the risk parameters specified by the Government. The operating bands are aimed at containing portfolio volatility that may arise from policy portfolio deviations, tactical decisions and market movements. A group-wide investment authorisation framework sets out the approving authorities for different classes and sizes of investments, and subjects large investments to additional review. The risk and performance management department independently sets and monitors performance and risk review thresholds to ensure that risk is properly diversified and managed. Information systems monitor and evaluate risk criteria, trading limits and investment guidelines within each managed portfolio. These systems allow for both pre-trade and post-trade compliance checking.

Portfolio managers and senior management obtain timely feedback through performance and risk attribution tools. Stress tests are also conducted based on a variety of scenarios to determine how potential changes in market conditions and risk events may impact the portfolio. Investment and operations teams work closely with the legal and compliance department to manage legal and regulatory compliance risks arising from the group's investment activities. The in-house legal team also works with external lawyers to address legal risks.

GIC adopts a risk budgeting discipline for public market asset classes to construct an efficient portfolio of active investment strategies. Risk capital is allocated to investment strategies according to the track records of the investment teams and their potential to generate risk-adjusted returns.

For private market asset classes, investment teams conduct extensive due diligence covering the market, physical, legal and financial aspects of the transactions, and the selection of investment partners, holding structures to be used, and exit strategies. They manage the measurement and operational risks associated with the performance of private market assets via operational and financial controls.

#### **MANAGING PROCESS 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.

New investment products or strategies are subject to a risk identification and assessment process conducted by a cross-functional group, so that risks associated with the new product or activity are identified and analysed before any new investment takes place. This process includes ensuring that the required people and infrastructure, including systems, procedures and controls, are in place to manage these risks.

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

We continuously monitor for key risk indicators including late transaction processing, late report releases, stale prices and system downtime. These indicators highlight potential risk areas that need to be addressed in a timely manner in order to mitigate the risk of loss resulting from possible slippages in GIC's operations.

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.

Throughout the year, internal and external auditors scrutinise all operations and business processes. Any deficiencies identified must be addressed within set time frames and reported to senior management.

#### **MANAGING PEOPLE RISK**

**We require our staff to observe GIC's code of ethics, maintain exemplary conduct, and comply with laws and regulations, including prohibitions against insider trading and other unlawful market conduct.**

Staff must protect confidential information and handle non-public material with due care. These guidelines are set out in our compliance manual, which is maintained by the legal and compliance department. The manual also states policies relating to the management of conflicts of interest, gifts and entertainment, copyright rules, personal investments and whistle-blowing.

We provide regular training to all staff to keep them current with compliance requirements. The training also helps raise the awareness of operational risk. Staff receive training on exchange regulations relevant to their responsibilities.

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 sustainable results.

People are at the heart of our business. Our PRIME values are the compass in our management of people, processes and portfolios. These values are included in our staff appraisals.

# LONG-TERM INVESTING

The Government of Singapore has entrusted GIC with managing its funds for the long term. This allows GIC to adopt a long-term investment approach – maximizing long-term returns while managing short-term market fluctuations.

Our long-term investing approach allows us to adopt two strategies that other investors may not be able to: harvesting returns from riskier assets and taking contrarian stances when markets are at extremes.

## HARVESTING RETURNS

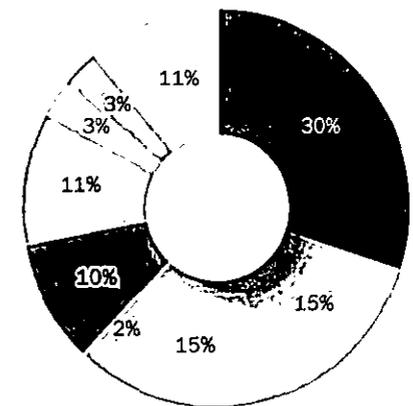
In the long term, riskier asset classes should deliver better returns in order to compensate investors for taking on more risk. By investing in risky assets, investors trade off uncertain payoffs for potentially higher returns over time. We call the extra return earned for investing in a risky asset the asset's risk premium. It takes patience to harvest risk premiums because the extra returns accumulate slowly and unpredictably over time, but GIC's long-term investment approach allows us to do so.

Possibly the most important risk premium in financial markets is the equity risk premium (ERP). The ERP is the additional return that stocks deliver over the risk-free rate earned from long-term treasury bonds. This extra return compensates investors for taking on the higher risk of the equity market. While investors may disagree over the exact definition of the ERP, most do not dispute that it exists. Historically, the global ERP has been around 4-5%.

Apart from the ERP, risk premiums have also been observed in other asset classes. Bonds, which represent long-term loans, offer a higher interest rate than short-term deposits to compensate for the risk that interest rates might change. Real estate and private equity, which are less liquid and more difficult to trade, also offer higher returns to compensate for the additional risks.

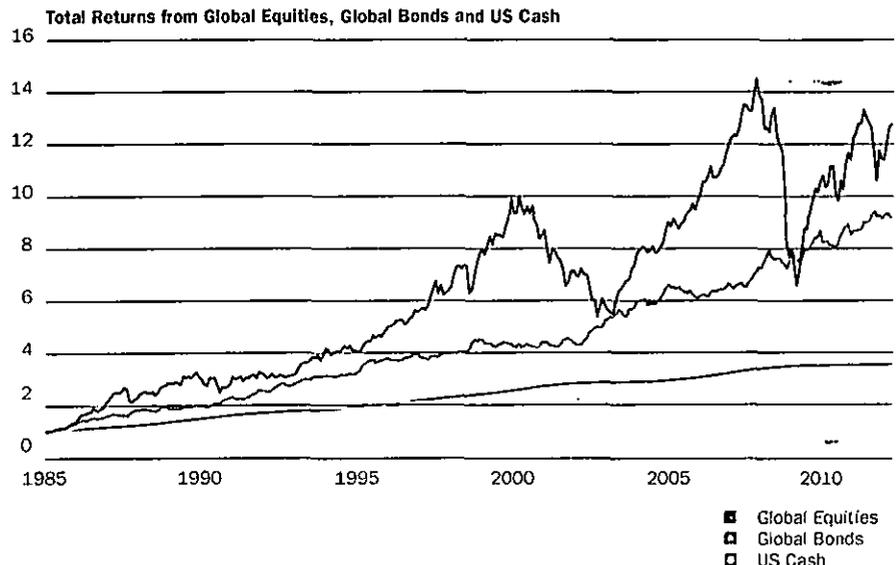
The Government's portfolio has a significant exposure to equities and equity-related asset classes as shown in Chart 1. These asset classes offer access to the attractive long-term ERP and other risk premiums. Our long-term investment horizon allows us to harvest these risk premiums while accepting short-term

CHART 1: ASSET CLASS COMPOSITION OF THE GOVERNMENT'S PORTFOLIO, MARCH 2012



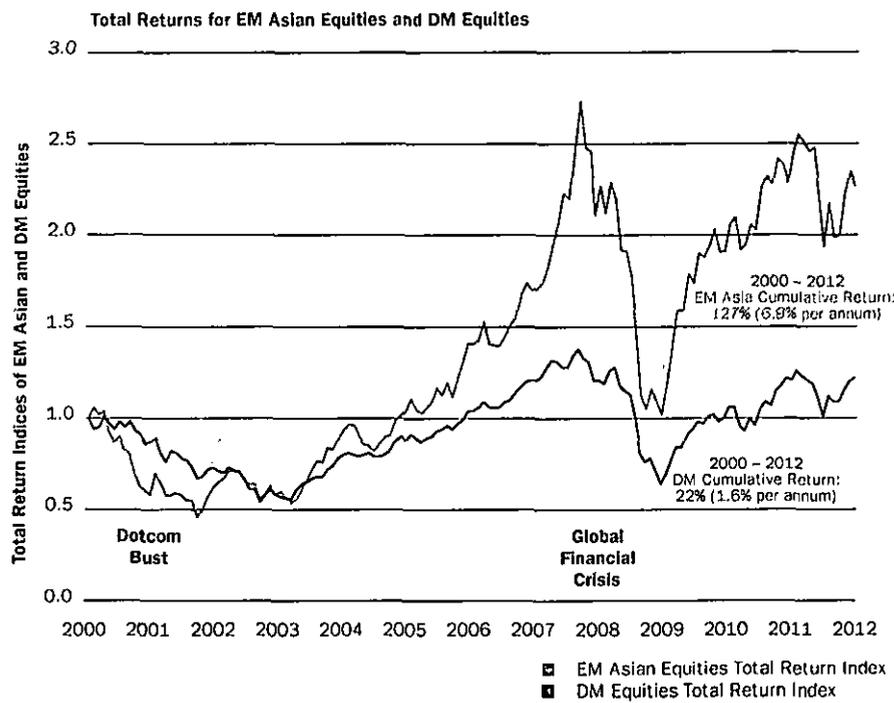
- Developed Market Equities
- Emerging Market Equities
- Nominal Bonds
- Inflation-linked Bonds
- Real Estate
- Private Equity & Infrastructure
- Absolute Return Strategies
- Natural Resources
- Cash & Others

CHART 2: HARVESTING RETURNS FROM ASSET CLASSES<sup>1</sup>



<sup>1</sup> Global equities are represented by the MSCI World Total Return Index (USD) (1985 – 1988) and the MSCI All-Country World Total Return Index (USD) (1988 – 2011), and Global bonds are represented by the Citigroup WGBI All-Maturities Total Return Index (USD).

CHART 3: EM ASIAN EQUITIES VERSUS DM EQUITIES <sup>2</sup>



<sup>2</sup> Developed Market (DM) equities are represented by the MSCI World Total Return Index (USD), and Emerging Market (EM) Asian equities are represented by the MSCI EM Asia Total Return Index (USD).

price fluctuations. Over time, these risk premiums compound into superior portfolio returns.

As shown in Chart 2, even though global equities fell substantially during the Dot-Com crisis (2000 – 2003) and Global Financial Crisis (2007 – 2009), staying the course and harvesting the ERP would have led to positive returns over cash and bonds. Since it is difficult for a large investor like GIC to time market falls and rises, GIC accepts some short-term setbacks to achieve our long-term investment goals.

Another example of a risk premium that GIC has harvested is the emerging market risk premium. Emerging market assets are more volatile than developed market assets in the short term. Emerging markets may also be riskier in other respects, such as presenting a higher probability of fraud, loan default and lower tradability during periods of market stress.

Despite the greater risks, GIC decided to increase our exposure to emerging market equities in 2003. This decision was based on two beliefs. First, the boom-and-bust cycles that plagued emerging markets in the past would be less severe in future because emerging markets governments and companies have strengthened

their governance frameworks. Second, and more importantly, these structural improvements in emerging economies would be sustained. Hence, GIC took the view that emerging markets would outperform developed markets in the long term.

Since 2003, GIC has built up its exposure to emerging market equities to 15% of the portfolio, with a concentration in emerging Asia. Emerging market Asian equities have returned 127% since 2000, whereas developed market equities returned only 22% over the same period.

### CONTRARIAN STANCE

A strategy of harvesting long-term risk premiums does not mean that investors should simply buy financial assets and wait. The prices of potential investments often do not reflect their true, fundamental value. For example, investors bid up technology stocks during the late 1990s, leading to the Dot-Com boom that eventually collapsed. On the flip side, recessions often drive many investments to bargain prices. These deviations from fundamental value are often caused by short-term market sentiment and herd behavior – irrational urges that an astute investor should not act on. Some of these deviations may also be amplified

by investors' circumstances, for example, investors who use investment returns to fund regular payouts may have to sell assets during a crisis to raise cash because returns have become zero or negative.

As a long-term investor, GIC has the flexibility to take a contrarian stance, taking positions against the crowd when markets deviate significantly from fair value. Because GIC's performance is assessed over the long term, and the portfolio does not face regular large withdrawals, we can accept possible short-term underperformance against our expectations in return for longer-term gain.

GIC attempts to determine the intrinsic value of our investments. GIC buys assets when their prices are below intrinsic value and sells them when they are expensive. This is not easy because markets generally function well, but one such episode occurred during the Global Financial Crisis of 2008.

### CONCLUSION

GIC's long-term investment horizon is a competitive advantage which should continue to be exploited to produce better returns for the Government's portfolio.

Long-term investing enables GIC to harvest risk premiums from different asset classes. It also allows us to take a contrarian stance when short-term deviations are extreme and prices are significantly away from their long-term fundamentals. But we can only enjoy the rewards of long-term investing if we are prepared to tolerate short-term losses or underperformance relative to market indices from time to time.

# EXTERNAL FUND MANAGERS (Public Markets)

Since GIC's inception in 1981, we focused on developing an internal capability to invest the Government's reserves. At the same time, we also awarded investment mandates to external fund managers with expertise which complements and augments our own capabilities. External managers have played a significant role in the Government's portfolio, managing at times up to 20% of the portfolio.

Allocating funds to external managers has three strategic benefits. It diversifies the Government's portfolio, expands the investment opportunities available and deepens our understanding of financial markets.

For the funds under external management, we adopt an active investing approach, under which investment managers seek to outperform public market benchmark indices rather than just matching their performance, as in passive investing. We have built long-term relationships with our external managers, some of whom we have invested with for many years. These partnerships have helped us to gain insights into high-quality investment ideas and research, as well as industry best practices in the areas of investments and operations.

## THE VALUE OF EXTERNAL MANAGERS

When we first started out, because of our relative inexperience, we invested with external managers to benefit from their experience, expertise and understanding of the financial markets.

**We view our external managers as partners** Our external managers must share our core investment philosophy that taking a long-term perspective enables an investor to earn superior risk-adjusted returns. We look for external managers who can maximize a portfolio's total market value over market cycles while controlling the interim risks.

**Our external managers complement GIC's internal capabilities in their respective asset classes** As GIC has upgraded our internal management capabilities, the role of external managers has become more nuanced. In general, we apply the principle of best sourcing, where we appoint external managers in equities and fixed income only if they augment the overall performance of the Government's portfolio. External managers have to justify their management fees by delivering superior performance net of fees. Additionally, some of our external managers operate in niche markets or employ an investment style or strategy beyond GIC's current capabilities.

GIC remains fully accountable for the overall performance of our external managers. We ensure that the risks they take are properly diversified and managed, and fall within the parameters set by the Government for GIC. We evaluate the risks involved in externally managed portfolios together with those that are managed internally.

Our external managers bring other benefits. They share their market and investment insights with GIC. These

insights benefit our macroeconomic forecasts and asset allocation research and sometimes challenge our own investment beliefs. Through our external managers, we have expanded our network of contacts, giving both GIC and our client an important source of knowledge and experience.

Sometimes our external managers refer co-investment deals to our investment teams. They also keep us informed about best practices and norms in areas such as risk management, trade operations and settlements, compliance and monitoring.

## DEDICATED IN-HOUSE TEAM TO MANAGE EXTERNAL MANAGERS

The External Managers Department is responsible for appointing and managing external managers in public markets. Two separate, independent divisions within the department handle the investment and compliance/operations aspects of the portfolio under external management.

Within the investment division, different teams cover the wide range of strategies offered by external managers. Each team is fully responsible for all aspects of appointing and managing an external manager including sourcing of the manager, investment due diligence, post-investment monitoring and review. The senior members of the investment teams have extensive portfolio management experience. This has enabled them to gain a deeper understanding of how a particular strategy drives returns and hence leads to a better analysis of investment risks.

The compliance/operations division is responsible for the operational aspects of the mandates awarded by the department. The team works with the external managers, the investment division and other corporate services departments in GIC to conduct independent operational due diligence reviews on each mandate. Such reviews are undertaken prior to the appointment of a new external manager and/or the award of a new mandate as well as on an ongoing basis.

**INVESTMENT PROCESS**

Managing our externally-managed portfolio entails a four-stage process: Strategy research and manager sourcing; manager review and due diligence; portfolio construction; and portfolio monitoring and risk management.

**Strategy Research and Manager Sourcing**

We start by identifying a specific investment thesis that we wish to pursue. This could be as broadly-focused as a regional mandate (for example, investing in Emerging Asia stocks) or as narrowly-focused as a specific market mispricing we wish to exploit. After researching the investment thesis, we shortlist and meet with the external managers who have expertise in these specific areas. Many contacts are obtained from our wide-ranging dialogue with market participants, including referrals from our market network and internal team.

**Manager Review and Due Diligence**

Before an investment is made, we carry out extensive investment and operational due diligence on the manager. As part of the investment due diligence process, we conduct both quantitative and qualitative evaluations. We evaluate factors such as the external manager’s track record; its performance relative to its peers; its compatibility with our existing portfolio and our assessment of the manager’s team, investment process and attention to risk control. We go through an equally exhaustive operational due diligence process before awarding an investment mandate to the external manager. Some of the factors include the investment structure, internal controls in the operations and pricing procedures.

**Portfolio Construction** Our goal in portfolio construction is to achieve a balanced portfolio that maximizes returns over the medium term while minimizing the risk of severe capital loss in periods of extreme market stress. Expected returns and risks are interconnected, so constructing the externally-managed portfolio requires good judgment to balance a variety of risks. Our allocation to different strategies is formulated through a clear understanding of the risks and returns inherent in each strategy.

**Portfolio Monitoring and Risk Management**

We monitor our external managers closely, through regular update calls and meetings. We take a long-term view when assessing managers. In addition to consistent good performance, we look for a steady application of their investment philosophy and process throughout market cycles. At the overall portfolio level, we review the aggregate portfolio risk and return characteristics and market exposures. We also review the portfolio strategy allocations and the attractiveness of specific investment themes.

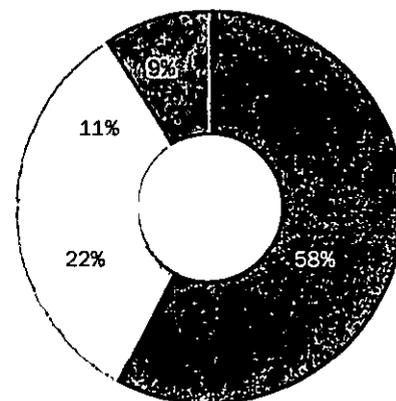
**CONCLUSION**

While we have honed investing capabilities within GIC over the years, we have always benefited by learning from our peers and partners in the industry. We have built strong connections with our panel of external managers. They will continue to be a valuable source of not only returns, but also market views and understanding of industry best practices.

Although external managers can provide strong and diversified returns, outsourcing part of the Government’s portfolio inevitably adds further complexity to the overall portfolio. Therefore, we will continue to construct our externally-managed portfolio with a clear understanding of the benefits of using external managers, while paying close attention to risks.

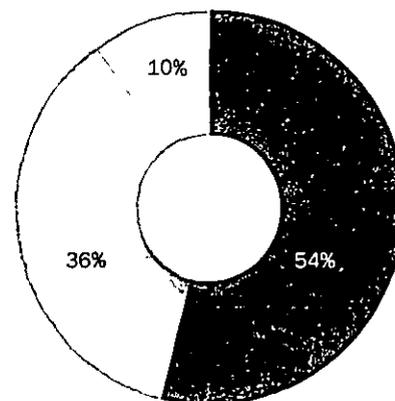
Our approach to external management has evolved in step with our internal capabilities and needs. We continue to seek good managers who can complement our strengths and add value to the structure and performance of the Government’s portfolio.

WHERE OUR EXTERNAL MANAGERS ARE BASED



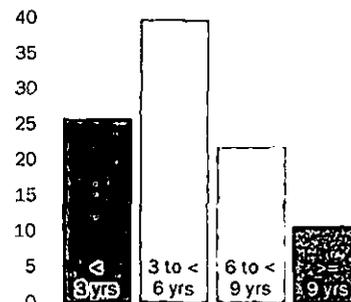
- North America
- Europe
- ▨ Singapore
- Australasia

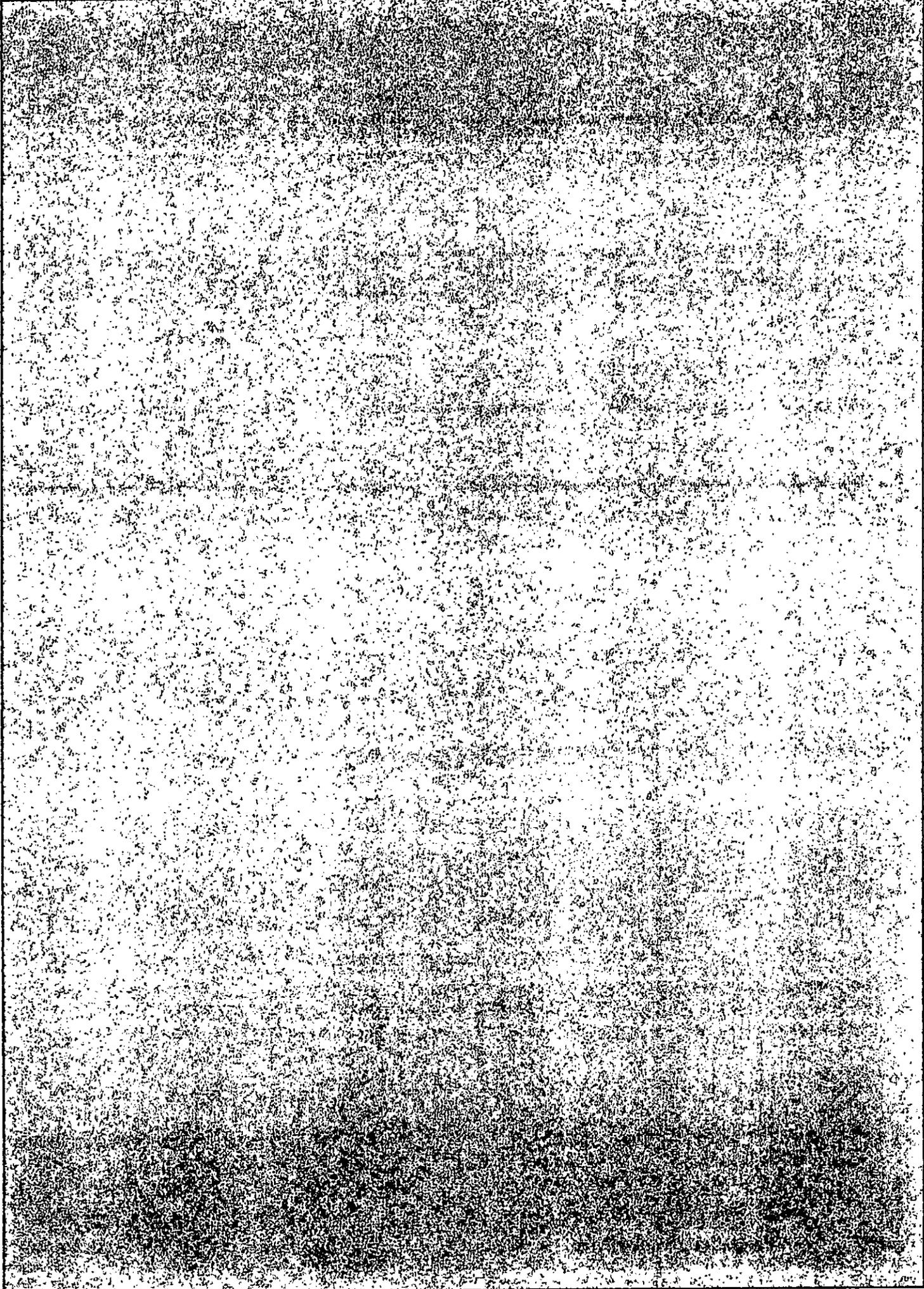
NUMBER OF EXTERNAL MANDATES BY ASSET CLASSES



- Marketable Alternatives
- Equities
- Fixed Income and FX

BREAKDOWN BY LENGTH OF EXTERNAL MANDATES





## GOVERNANCE

The Ministry of Finance, representing the Government, sets the investment objective, risk parameters and investment horizon for the portfolio. It ensures that a competent board of directors is in place.

The Board assumes ultimate responsibility for asset allocation and the performance of the portfolio. The management executes investment strategies, is responsible for all investment transactions and reports regularly to the Board and the Ministry of Finance.

# GOVERNANCE

## INTRODUCTION

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. GIC invests well over US\$100 billion internationally in a wide range of asset classes and instruments. As a rule, GIC invests outside Singapore.

## SOURCE AND PURPOSE OF FUNDS

The fundamental sources of the Singapore Government's funds are sustained balance of payments surpluses and accumulated national savings. The portfolio has grown as a result of investment returns.

With no natural resources to keep the country going in times of crisis or severe economic dislocation, these reserves are a nest egg, a safeguard against unforeseen circumstances, and a means to mitigate shocks that may hit Singapore's small and open economy.

**The reserves also provide a stream of returns that can be spent or invested for the benefit of present and future generations of Singaporeans. The Government is allowed to spend part of the investment returns on its reserves. GIC's mission is thus to preserve and enhance the international purchasing power of these reserves.**

The Constitution of Singapore stipulates a spending rule that determines how much of the investment returns on its net assets the Government can spend. The spending rule allows 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, to be taken into the Government's annual budget.

## THE GOVERNMENT

An Investment Mandate from the Government to GIC sets out the terms of appointment, investment objective, investment horizon, risk parameters and investment guidelines for managing the portfolio.

**The Government, which is represented by the Ministry of Finance in its dealings with GIC, neither directs nor interferes in the company's investment decisions. It holds the GIC Board accountable for the overall portfolio performance.**

GIC provides monthly and quarterly reports to the Accountant-General of Singapore. These reports list the investment transactions executed, as well as the holdings and bank account balances. The reports provide detailed performance and risk analytics as well as the distribution of the portfolio by asset class, country and currency. Once a year, the 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 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 and to exercise discretionary powers to protect the reserves not accumulated by a government during its current term of office. Singapore's President is independent of the Government and must not be a member of any political party. This system aims to ensure that the government of the day cannot spend more than what it has earned during its term of office, or draw on past reserves, without the approval of the President. GIC is accountable in various key areas to the President of Singapore as a Fifth Schedule company. The Constitution empowers him to obtain information to enable him to safeguard the country's reserves. No one may be appointed to or removed from the GIC Board without his concurrence. This additional layer of control ensures that the company appoints only people of integrity who are competent and who can be trusted to safeguard these assets.

## 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.

**In addition to being audited by GIC's internal audit, the main companies in the GIC group and the Government's portfolio managed by GIC are independently audited by the Auditor-General of Singapore.**

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

## THE GIC BOARD

The Board is ultimately responsible for asset allocation and for the performance of the portfolio under management. It is accountable to the Government for the effective management of the reserves in accordance with the Investment Mandate. The Board meets at least twice a year.

## **BOARD COMMITTEES**

The Board is supported by the investment strategies committee, investment review committee, risk committee, audit committee and the human resource and organization committee.

### **Investment Strategies Committee**

The investment strategies committee meets regularly to review and critically evaluate the management's recommendations on asset allocation and new asset classes before the proposed changes are presented to the Board for approval. The management reports to this committee on the performance of the portfolio. The committee does not decide on specific deals or how policies should be implemented.

### **Investment Review Committee**

The investment review committee oversees GIC's investment process and assesses the considerations for large investments. It examines the process by which decisions on specific investments are made and ensures that they are well-conceived and executed.

### **Risk Committee**

The risk committee advises the Board on risk matters and provides broad supervision on the effectiveness of risk management policies and practices. It reviews GIC's risk profile as well as significant risk issues arising from operations and investments.

### **Audit Committee**

The audit committee reviews and assesses the adequacy and effectiveness of the system of internal controls, including financial, operational and compliance controls, and risk management policies and procedures. It also supervises and evaluates the effectiveness of the internal audit function. The committee also reviews the integrity of the financial reporting process and other related disclosures for GIC companies, significant ethics violations, impact of changes in the regulatory and legal environment, and issues of fraud and financial losses.

### **Human Resource and Organization Committee**

The human resource and organization committee evaluates and approves GIC's compensation policies for the group and senior management, succession planning for key appointments and oversees organizational development.

## **INTERNATIONAL ADVISORY BOARD**

The international advisory board provides the GIC Board, board committees and management with global and regional perspectives on geopolitical, economic and market developments. It seeks to

provide advice and perspectives on a range of investment-related matters, in particular, global investment trends, emerging asset classes and new growth opportunities.

## **BOARDS OF ASSET MANAGEMENT COMPANIES**

All three asset management companies are wholly-owned subsidiaries responsible for investing the portfolio within the guidelines set out in the Investment Mandate. Their boards, which meet at least twice a year, oversee investment strategies of the asset classes under management and review operations of the companies within group-wide policies.

## **GIC MANAGEMENT**

The management structure is relatively flat, with clear reporting lines and accountability.

### **Group Executive Committee**

The group executive committee, the highest management body in GIC, brings together the group's functional and investment heads. It deliberates on management proposals for investment and risk issues before these are submitted to the relevant board committees and the GIC Board. This committee also reviews and approves major personnel and business policies that apply to the entire group.

### **Group Management Committee**

The group management committee oversees organizational development, business and personnel matters including succession planning, talent development, compensation and performance management processes.

### **Group Investment Committee**

The group investment committee oversees and coordinates the investment activities of the group. It focuses on changes to asset allocation and reviews the risk and performance of the various asset classes. It studies business and investment initiatives, develops broad investment strategies, and deploys the teams with the appropriate investment skills to implement these strategies.

### **Group Risk Committee**

The group risk committee oversees market, credit, technology, operational and regulatory compliance risks, and approves risk management frameworks and policies relating to these risks. The committee brings together members across the group to identify and assess strategic risk management issues that carry major implications for the company's investment strategies and operations. It highlights significant risk issues to senior management and relevant risk governance bodies where required.

# GIC BOARD AND BOARD COMMITTEES

## BOARD OF DIRECTORS

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Chairman

LEE HSIEN LOONG

Directors

LIM HNG KIANG

THARMAN SHANMUGARATNAM

TEO CHEE HEAN

HENG SWEE KEAT

DR RICHARD HU TSU TAU

ANG KONG HUA

PETER SEAH LIM HUAT

CHEW CHOON SENG

RAYMOND LIM SIANG KEAT

LIM SIONG GUAN

NG KOK SONG

Senior Advisor

LEE KUAN YEW

## INVESTMENT STRATEGIES COMMITTEE

---

Chairman

THARMAN SHANMUGARATNAM

Members

LIM HNG KIANG

TEO CHEE HEAN

HENG SWEE KEAT

ANG KONG HUA

PETER SEAH LIM HUAT

Advisors

SIR HOWARD J DAVIES

DR MARTIN L LEIBOWITZ

G LEONARD BAKER JR

## INVESTMENT REVIEW COMMITTEE

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Chairman

PETER SEAH LIM HUAT

Member

ANG KONG HUA

Advisors

G LEONARD BAKER JR

QUAH WEE GHEE

## RISK COMMITTEE

---

Chairman

LIM HNG KIANG

Members

RAYMOND LIM SIANG KEAT

SECK WAI KWONG

Advisor

DR MARTIN L LEIBOWITZ

## AUDIT COMMITTEE

---

Chairman

CHEW CHOON SENG

Members

DR RICHARD HU TSU TAU

RAYMOND LIM SIANG KEAT

## HUMAN RESOURCE AND ORGANIZATION COMMITTEE

---

Chairman

ANG KONG HUA

Members

DR RICHARD HU TSU TAU

CHEW CHOON SENG

## INTERNATIONAL ADVISORY BOARD

---

Chairman

LEE KUAN YEW

Deputy Chairman

TEO CHEE HEAN

Members

G LEONARD BAKER JR

LÉON BRESSLER

SIR HOWARD J DAVIES

STEVEN J GREEN

DR MARTIN L LEIBOWITZ

DEEPAK PAREKH

# GROUP COMMITTEES

## GROUP EXECUTIVE COMMITTEE

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Chairman

**LIM SIONG GUAN**

Group President

Deputy Chairman

**NG KOK SONG**

Group Chief Investment Officer

Members

**LIM CHOW KIAT**

Deputy Group Chief Investment Officer & President, GIC Asset Management

**TAY LIM HOCK**

President, GIC Special Investments

**GOH KOK HUAT**

President, GIC Real Estate

**DR CHIA TAI TEE**

Chief Risk Officer

**DR LESLIE TEO ENG SIPP**

Chief Economist & Director, Economics & Investment Strategy

Advisors

**QUAH WEE GHEE**

**DR TEH KOK PENG**

**DR SEEK NGEE HUAT**

## GROUP MANAGEMENT COMMITTEE

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Chairman

**LIM SIONG GUAN**

Group President

Members

**NG KOK SONG**

Group Chief Investment Officer

**LIM CHOW KIAT**

Deputy Group Chief Investment Officer & President, GIC Asset Management

**TAY LIM HOCK**

President, GIC Special Investments

**GOH KOK HUAT**

President, GIC Real Estate

**DR CHIA TAI TEE**

Chief Risk Officer

## GROUP INVESTMENT COMMITTEE

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Chairman

**NG KOK SONG**

Group Chief Investment Officer

Members

**LIM CHOW KIAT**

Deputy Group Chief Investment Officer & President, GIC Asset Management

**TAY LIM HOCK**

President, GIC Special Investments

**GOH KOK HUAT**

President, GIC Real Estate

**DR LESLIE TEO ENG SIPP**

Chief Economist & Director, Economics & Investment Strategy

**LIM KEE CHONG**

Deputy President, GIC Asset Management

## GROUP RISK COMMITTEE

---

Chairman

**DR CHIA TAI TEE**

Chief Risk Officer

Members

**CHUA LEE MING**

General Counsel

**DR LESLIE TEO ENG SIPP**

Chief Economist & Director, Economics & Investment Strategy

**KWOK WAI KEONG**

Global Head, Asset Management, Real Estate

**NG KIN SZE**

Global Head, Portfolio, Strategy & Risk Group, Special Investments

**ONG HIAN LEONG**

Director, Technology

**JOYCE TAN SIEW PHENG**

Director, Investment Operations

**DEANNA ONG AUN NEE**

Director, Finance & Director, Human Resource & Organization

**PANG WAI YIN**

Director, Risk & Performance Management

**CHOY SIEW KAI**

Head, Investment Services, Equities

**LEONG WING KWAN**

Head, Portfolio Analysis & Investment Services, Fixed Income

## Board Committees

Investment Strategies Committee

Investment Review Committee

Risk Committee

Audit Committee

Human Resource & Organization Committee

## International Advisory Board

**LIM SIONG GUAN**

Group President

**NG KOK SONG**

Group Chief Investment Officer

**LIM CHOW KIAT**

Group Chief Investment Officer

## CORPORATE HEADQUARTERS

**DR CHIA TAI TEE**  
Chief Risk Officer

**PANG WAI YIN**  
Risk & Performance  
Management

**WONG WEI**  
Internal Audit

**DR LESLIE TEO EN**  
Chief Economist  
Economics & Investment  
Strategy

**TAN CHOR HWA**  
Corporate Administration  
Infrastructure

**DEANNA ONG AUN**  
Finance  
Human Resource &  
Organization

## INVESTMENT GROUPS

**PUBLIC  
MARKETS**

**LIM CHOW KIAT**  
President

**LIM KEE CHONG**  
Deputy President

**RICHARD CHAN  
HIANG NGEE**  
Asia Pacific Equities

**CHEN SOON BIN**  
Emerging Markets  
Non-Asia Equities

**TUNG SIEW HOONG**  
Fixed Income

**BETTY TAY HUI CHOO**  
External Managers

**JIN YUEN YEE**  
Treasury & Currency  
Management

**KAM KHAI JIE**  
Natural Resources

**WEE AI NING**  
Strategic Cross-Asset  
Investment

**DANIEL JUDGE**  
Global Trading

**REAL  
ESTATE**

**GOH KOK HUAT**  
President

**KWOK WAI KEONG**  
Asset Management (Asia)  
Investments (Asia)

**TIA MIYAMOTO**  
Investments (Americas)

**CHRISTOPHER MO**  
Investments (Europe)

**DAVID DICKINSON**  
Research & Strategic  
Planning

## OVERSEAS OFFICES

**ANTHONY LIM WENG KIN**  
President (Americas)

**LIU DONG**  
Beijing Office



# MANAGEMENT

**DR CHIA TAI TEE**  
*Chief Risk Officer*

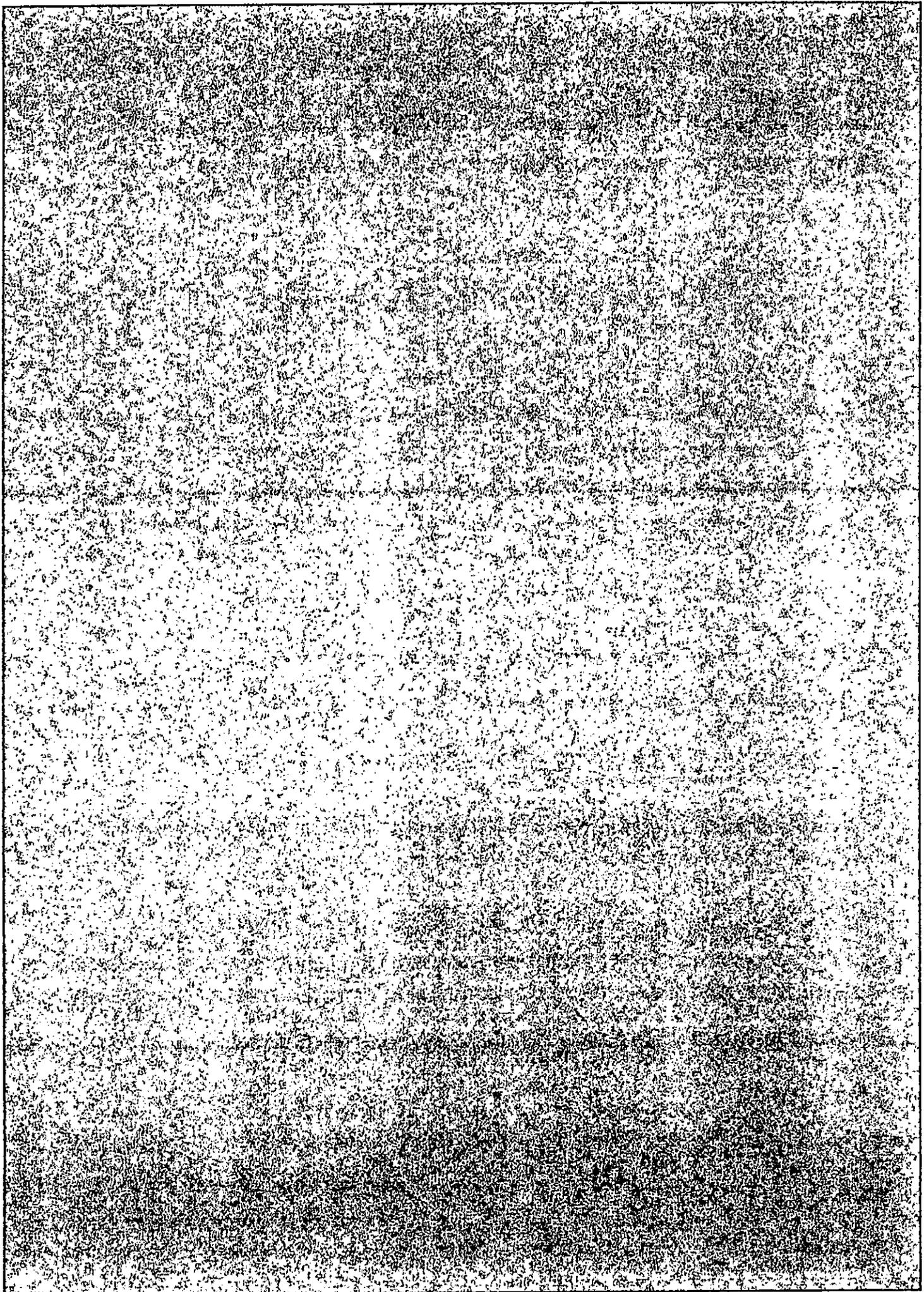
**GOH KOK HUAT**  
*President*  
*GIC Real Estate*

**LIM CHOW KIAT**  
*Deputy Group Chief Investment Officer*  
*President*

**LIM KEE CHONG**  
*Deputy President*  
*GIC Asset Management*

**DR LESLIE TEO ENG SIPP**  
*Chief Economist*  
*Director*

**TAY L...**  
*President*  
*GIC S...*



# OUR PEOPLE

Headquartered in Singapore, GIC is a global organization with offices in nine cities worldwide and an international talent pool.

# OUR PEOPLE

## OVERVIEW

GIC has about 1,200 employees from over 30 countries. Our talent pool comprises both new graduates and accomplished industry professionals from a wide variety of academic and industry backgrounds. We manage investments in more than 40 countries, from offices in nine cities. Our overseas staff are equipped with local knowledge to effectively manage investments in their respective regions, enabling GIC to stay on top of developments in various markets. More than half of our investment professionals are non-Singaporeans.

## PEOPLE ARE KEY

People are the most important asset in GIC.

**All GICians, regardless of role or location, work together for the common purpose of investing successfully for Singapore.**

We look for people with a drive to learn and who are not afraid to offer their ideas and perspectives. The GIC Professionals Programme employs a stringent selection process to recruit top talent from around the world. This one-year programme includes job rotations that help participants gain insights into different areas of the organization while undergoing valuable on-the-job training. Meanwhile, the GIC Internship Programme offers promising undergraduate and postgraduate students a chance to get a head-start in the fund management business before they graduate.

Our clients are top priority, which is why we maintain good industry standards in all our practices and processes – from sourcing and executing investments to managing risk and operations – to ensure the optimal management of diverse asset classes.

At GIC, we operate as one team. By integrating the knowledge and expertise across operations, we can overcome any challenge in today's dynamic financial landscape.

## EMPLOYEE DEVELOPMENT

GIC focuses on developing staff to their full potential by providing an environment for continuous learning. A Foundation Programme at every grade level ensures that everyone understands the organization's values and philosophy. GICians take charge of their own development by participating in customised development courses, learning communities, and study groups that aim to inspire new ideas. These initiatives are complemented by mentorship programmes where young professionals benefit from the counsel of experienced colleagues. Staff are also given opportunities to work in different parts of the business and in various offices to broaden their knowledge base and global insights.

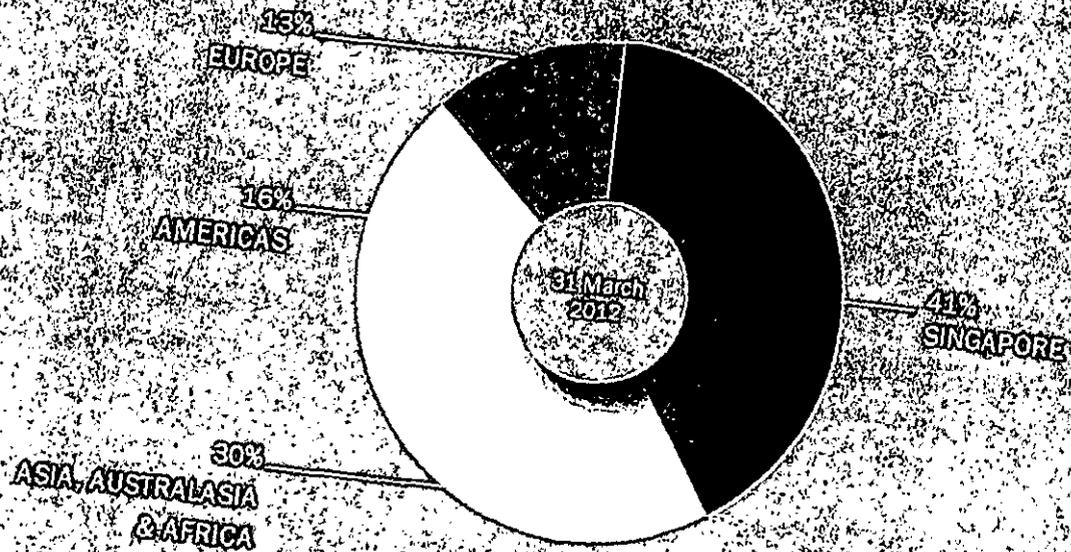
**GIC has in place succession planning programmes that identify and develop capable leaders across the organization. We recognise the need for a continuing flow of people who are highly capable and deeply committed to the sustained success of the company.**

Managing Directors, who are respected for their competence in their individual fields, possess the ability and willingness to drive group-wide initiatives which contribute to GIC's total business and performance. We are pleased to announce the appointment of six new Managing Directors in 2012: Ravi Balasubramanian, Suzi Cohen, Daniel Judge, Lee Kok Sun, Liew Tzu Mi and Jason Triplitt.

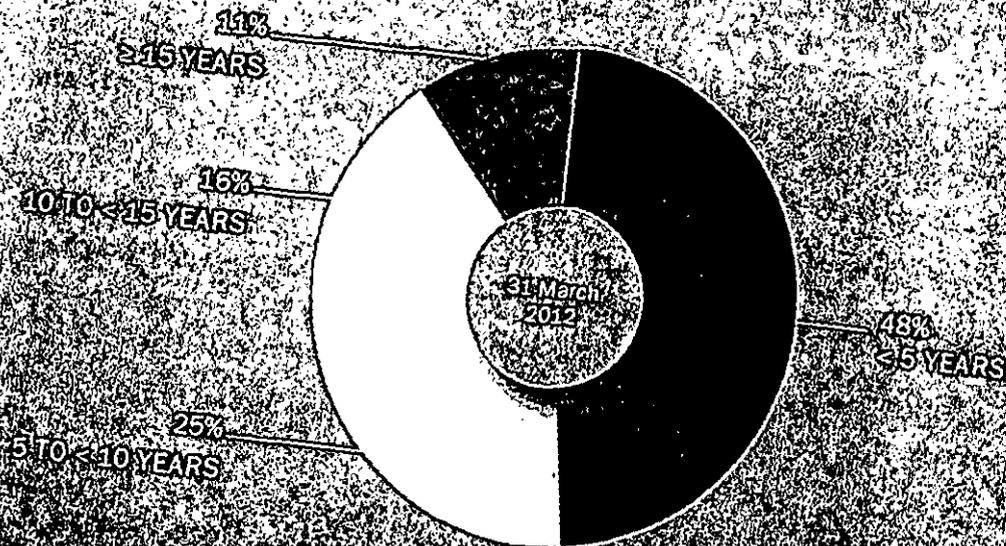
## INNOVATION AND CONTINUOUS IMPROVEMENT

In order to stay nimble and to be better prepared for the future, GIC provides staff with many avenues for continuous improvement in every aspect of the business. These avenues promote a culture of responsiveness and creativity that hones each professional's ability to identify issues, initiate ideas, and implement innovative solutions.

# WHERE OUR INVESTMENT PROFESSIONALS COME FROM



# YEARS IN CIC



# OUR OFFICES

NEW YORK

LONDON

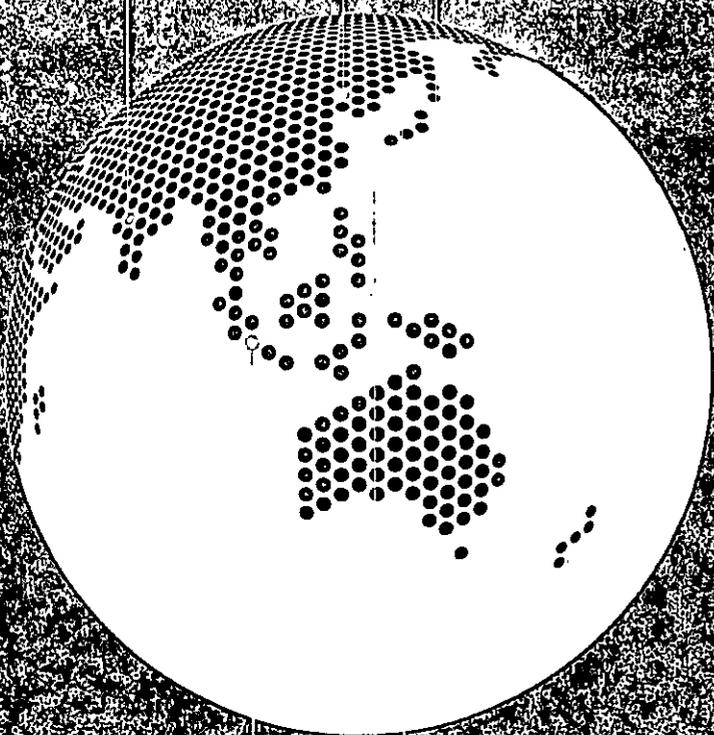


SAN FRANCISCO

MUMBAI

BEIJING

TOKYO



SINGAPORE

SEOUL  
SHANGHAI

