

Macquarie Global Infrastructure Total Return Fund Inc.
Form N-Q
October 29, 2010

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM N-Q

QUARTERLY SCHEDULE OF PORTFOLIO HOLDINGS OF REGISTERED

MANAGEMENT INVESTMENT COMPANY

Investment Company Act file number: 811-21765

Macquarie Global Infrastructure Total Return Fund Inc.

(Exact name of registrant as specified in charter)

125 West 55th Street, New York, NY 10019

(Address of principal executive offices) (Zip code)

JoEllen L. Legg

ALPS Fund Services, Inc.

1290 Broadway, Suite 1100

Denver, Colorado 80203

(Name and address of agent for service)

Registrant's telephone number, including area code: (303) 623-2577

Date of fiscal year end: November 30

Date of reporting period: June 1 - August 31, 2010

Item 1. Schedule of Investments.

Macquarie Global Infrastructure Total Return Fund

Schedule of Investments

August 31, 2010 (Unaudited)

(Expressed in U.S. Dollars)

| Description | Shares | Value \$ |
|---|------------|---------------|
| COMMON STOCKS - 117.87% | | |
| Australia - 19.13% | | |
| Asciano Group ^{(1),(2)} | 8,683,762 | \$ 12,941,005 |
| Intoll Group ⁽²⁾ | 9,717,225 | 12,752,037 |
| MApp Group ⁽²⁾ | 2,597,091 | 6,839,497 |
| Spark Infrastructure Group ⁽²⁾⁽³⁾ | 12,773,548 | 13,239,840 |
| Transurban Group ⁽²⁾ | 3,447,636 | 14,938,110 |
| | | 60,710,489 |
| Brazil - 4.11% | | |
| EDP Energias do Brasil SA ⁽²⁾ | 396,800 | 8,368,667 |
| LLX Logistica SA ⁽¹⁾ | 922,700 | 4,665,382 |
| | | 13,034,049 |
| Canada - 6.28% | | |
| Enbridge, Inc. | 203,817 | 10,139,721 |
| TransCanada Corp. ⁽⁴⁾ | 274,640 | 9,786,956 |
| | | 19,926,677 |
| China - 12.26% | | |
| Beijing Capital International Airport Co., Ltd. | 8,724,000 | 4,216,904 |
| Beijing Enterprises Holdings, Ltd. | 533,000 | 3,761,748 |
| China Longyuan Power Group Corp. ⁽¹⁾ | 3,795,000 | 3,829,761 |
| China Merchants Holdings International Co., Ltd. | 1,340,734 | 4,524,412 |
| Dalian Port PDA Co., Ltd. | 14,642,000 | 5,778,684 |
| Jiangsu Expressway Co., Ltd. | 9,216,000 | 8,992,375 |
| Zhejiang Expressway Co., Ltd. | 8,782,609 | 7,801,745 |
| | | 38,905,629 |
| France - 15.27% | | |
| Aeroports de Paris | 208,937 | 14,742,700 |
| Electricite de France | 248,989 | 9,917,153 |
| GDF Suez | 421,940 | 13,065,484 |
| Vinci SA | 244,274 | 10,718,388 |
| | | 48,443,725 |
| Germany - 4.92% | | |
| Hamburger Hafen und Logistik AG ⁽²⁾ | 446,300 | 15,612,667 |
| | | |
| Italy - 7.40% | | |
| Atlantia SpA ⁽²⁾ | 1,018,482 | 19,192,289 |
| Terna SpA | 1,065,956 | 4,285,519 |
| | | 23,477,808 |
| Japan - 3.85% | | |
| Tokyo Gas Co., Ltd. | 2,616,473 | 12,208,754 |
| | | |
| Mexico - 1.17% | | |
| Grupo Aeroportuario del Pacifico SA de CV - Class B | 1,304,406 | 3,719,702 |

Spain - 8.87%

| | | |
|---|---------|---------------|
| Abertis Infraestructuras SA | 822,229 | \$ 13,628,968 |
| Enagas SA ⁽²⁾ | 121,892 | 2,154,824 |
| Red Electrica de Espana SA ⁽²⁾ | 300,039 | 12,364,903 |

| | | | |
|--|--|--------------|----------------------|
| | | | 28,148,695 |
| Switzerland - 2.09% | | | |
| Flughafen Zuerich AG ⁽²⁾ | | 19,928 | 6,624,674 |
| United Kingdom - 11.70% | | | |
| National Grid Plc | | 1,947,431 | 16,396,841 |
| Scottish & Southern Energy Plc ⁽²⁾ | | 231,764 | 4,069,839 |
| Severn Trent Plc ⁽²⁾ | | 839,174 | 16,666,620 |
| | | | 37,133,300 |
| United States - 20.82% | | | |
| American Electric Power Co., Inc. | | 343,600 | 12,166,876 |
| Corrections Corp. of America ^{(1),(2)} | | 407,600 | 9,093,556 |
| FirstEnergy Corp. | | 165,600 | 6,049,368 |
| ITC Holdings Corp. ⁽²⁾ | | 204,842 | 11,872,642 |
| PG&E Corp. ⁽²⁾ | | 359,400 | 16,805,544 |
| Spectra Energy Corp. ⁽²⁾ | | 496,300 | 10,094,742 |
| | | | 66,082,728 |
| Total Common Stocks | | | 374,028,897 |
| (Cost \$399,212,378) | | | |
| MASTER LIMITED PARTNERSHIPS - 8.11% | | | |
| United States - 8.11% | | | |
| Energy Transfer Partners LP ⁽²⁾ | | 206,633 | 9,441,062 |
| Enterprise Products Partners LP ⁽²⁾ | | 221,478 | 8,188,042 |
| Magellan Midstream Partners LP ⁽²⁾ | | 166,988 | 8,092,238 |
| | | | 25,721,342 |
| Total Master Limited Partnerships | | | 25,721,342 |
| (Cost \$23,751,492) | | | |
| | | 7 Day | |
| Description | | Yield | Shares |
| | | | Value \$ |
| SHORT TERM INVESTMENTS - 0.96% | | | |
| Money Market Fund - 0.96% | | | |
| Northern Institutional Government Select Portfolio | | 0.027% | 3,038,037 |
| | | | 3,038,037 |
| Total Short Term Investments | | | 3,038,037 |
| (Cost \$3,038,037) | | | |
| Total Investments - 126.94% | | | 402,788,276 |
| (Cost \$426,001,907) | | | |
| Other Assets in Excess of Liabilities - 1.28% | | | \$4,068,260 |
| Leverage Facility - (28.22)% | | | (89,547,262) |
| Total Net Assets - 100.00% | | | \$317,309,274 |

(1) Non-Income Producing Security.

(2) All or a portion of the securities are available to serve as collateral on the outstanding leverage. The aggregate market value of the collateralized securities totals \$218,858,249 as of August 31, 2010.

(3) Security is not registered in the U.S., but may be resold only to qualified institutional buyers in transactions exempt from registration with accordance to Rule 144A under the Securities Act of 1933 and is technically considered a restricted security .

(4) All or a portion of the security is on loan as of August 31, 2010.

Common Abbreviations:

AG Aktiengesellschaft is a German term that refers to a corporation that is limited by shares, i.e., owned by shareholders.

LP Limited Partnership.

Ltd. Limited.

Plc Public Limited Company.

SA Generally designates corporations in various countries, mostly those employing the civil law.

SA de CV Sociedad Anonima de Capital Variable is a Spanish Variable Capital Company.

SpA Societeta Per Azioni is an Italian shared company.
See Notes to Quarterly Schedule of Investments.

NOTES TO QUARTERLY SCHEDULE OF INVESTMENTS

August 31, 2010 (Unaudited)

1. Portfolio Valuation: The net asset value (NAV) of the common shares will be computed based upon the value of the securities and other assets and liabilities held by the Fund. The NAV is determined as of the close of regular trading on the NYSE (normally 4:00 p.m. Eastern Standard Time) on each day the NYSE is open for trading. U.S. debt securities and non-U.S. securities will normally be priced using data reflecting the earlier closing of the principal markets for those securities (subject to the fair value policies described below).

Readily marketable portfolio securities listed on any U.S. exchange other than the NASDAQ National Market are valued, except as indicated below, at the last sale price on the business day as of which such value is being determined, or if no sale price, at the mean of the most recent bid and asked prices on such day. Securities admitted to trade on the NASDAQ National Market are valued at the NASDAQ official closing price as determined by NASDAQ. Securities traded on more than one securities exchange are valued at the last sale price on the business day as of which such value is being determined at the close of the exchange representing the principal market for such securities. U.S. equity securities traded in the over-the-counter market, but excluding securities admitted to trading on the NASDAQ National Market, are valued at the closing bid prices.

Non-U.S. exchange-listed securities will generally be valued using information provided by an independent third party pricing service. The official non-U.S. security price is determined using the last sale price at the official close of the security's respective non-U.S. market, which is usually different from the close of the NYSE. Occasionally, events affecting the value of such securities may occur between such times and the close of NYSE that will not always be reflected in the computation of the value of such securities. If events materially affecting the value of such securities occur during such period, these securities will be valued at their fair value according to the procedures adopted by the Fund's Board of Directors. Non-U.S. securities, currencies and other assets denominated in non-U.S. currencies are translated into U.S. Dollars at the exchange rate of such currencies against the U.S. Dollar as provided by a pricing service. When price quotes are not available, fair market value may be based on prices of comparable securities.

Forward currency exchange contracts are valued by calculating the mean between the last bid and asked quotation supplied to a pricing service by certain independent dealers in such contracts. Non-U.S. traded forward currency contracts are valued using the same method as the U.S. traded contracts. Exchange traded options and futures contracts are valued at the closing price in the market where such contracts are principally traded. These contracts may involve market risk. In addition, the Fund could be exposed to risk if the counterparties are unable to meet the terms of the contract or if the value of the currencies changes unfavorably to the U.S. Dollar.

In the event that the pricing service cannot or does not provide a valuation for a particular security, or such valuation is deemed unreliable, especially with unlisted securities or instruments, fair value is determined by the Board of Directors or a committee of the Board of Directors or a designee of the Board. In fair valuing the Fund's investments, consideration is given to several factors, which may include, among others, the following:

- ; the projected cash flows for the issuer;
- ; the fundamental business data relating to the issuer;
- ; an evaluation of the forces that influence the market in which these securities are purchased and sold;
- ; the type, size and cost of holding;
- ; the financial statements of the issuer;
- ; the credit quality and cash flow of the issuer, based on the Manager's or external analysis;
- ; the information as to any transactions in or offers for the holding;
- ; the price and extent of public trading in similar securities (or equity securities) of the issuer, or comparable companies;

the business prospects of the issuer/ borrower, including any ability to obtain money or resources from a parent or affiliate and an assessment of the issuer's or borrower's management; and

i

the prospects for the issuer's or borrower's industry, and multiples (of earnings and/or cash flow) being paid for similar businesses in that industry.

i

Fair Value Measurements: In September 2006, the Financial Accounting Standards Board (FASB) issued Fair Value Measurements and Disclosures (Fair Value Statement or ASC 820.10.5, formerly FAS 157) effective for fiscal years beginning after November 15, 2007. The Fair Value Statement defines fair value, establishes a framework for measuring fair value in GAAP, and expands disclosures about fair value measurements. The Fund adopted the Fair Value Statement as of the beginning of its fiscal year on December 1, 2008. Under the Fair Value Statement, various inputs are used in determining the value of the Fund's investments.

In accordance with GAAP, the Fund uses a three-tier hierarchy to establish classification of fair value measurements for disclosure purposes. Inputs refer broadly to the assumptions that market participants would use in pricing the asset or liability, including assumptions about risk. Inputs may be observable or unobservable. Observable inputs are inputs that reflect the assumptions market participants would use in pricing the asset or liability that are developed based on market data obtained from sources independent of the reporting entity. Unobservable inputs are inputs that reflect the reporting entity's own assumptions about the assumptions market participants would use in pricing the asset or liability that are developed based on the best information available.

Level 1 Unadjusted quoted prices in active markets for identical assets or liabilities that the Fund has the ability to access.

Level 2 Observable inputs other than quoted prices included in level 1 that are observable for the asset or liability, either directly or indirectly. These inputs may include quoted prices for the identical instrument on an inactive market, prices for similar instruments, interest rates, prepayment speeds, credit risk, yield curves, default rates and similar data.

Level 3 Unobservable inputs for the asset or liability, to the extent relevant observable inputs are not available; representing the Fund's own assumptions about the assumptions a market participant would use in valuing the asset or liability, and would be based on the best information available.

The availability of observable inputs can vary from security to security and is affected by a wide variety of factors, including, for example, the type of security, whether the security is new and not yet established in the marketplace, the liquidity of markets, and other characteristics particular to the security. To the extent that valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. Accordingly, the degree of judgment exercised in determining fair value is greatest for instruments categorized in Level 3.

The inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, for disclosure purposes, the level in the fair value hierarchy within which the fair value measurement falls in its entirety, is determined based on the lowest level input that is significant to the fair value measurement in its entirety.

Various inputs are used in determining the value of the Fund's investments as of the reporting period end. The designated input levels are not necessarily an indication of the risk or liquidity associated with these investments.

The valuation techniques used by the Fund to measure fair value during the six months ended August 31, 2010 maximized the use of observable inputs and minimized the use of unobservable inputs.

The following is a summary of the inputs used as of August 31, 2010 in valuing the Fund's investments carried at value:

Assets:

| Investments in Securities at Value* | Level 1 - Quoted Prices | Level 2 - Other Significant Observable Inputs | Level 3 - Significant Unobservable Inputs | Total |
|-------------------------------------|----------------------------|---|--|-------|
|-------------------------------------|----------------------------|---|--|-------|

| | | | | |
|-----------------------------|---------------|-------------|----|---------------|
| Common Stocks | \$374,028,897 | \$ | \$ | \$374,028,897 |
| Master Limited Partnerships | 25,721,342 | | | 25,721,342 |
| Short Term Investments | | 3,038,037 | | 3,038,037 |
| TOTAL | \$399,750,239 | \$3,038,037 | \$ | \$402,788,276 |

* For detailed country descriptions, see the accompanying Schedule of Investments. For the period ended August 31, 2010, the Portfolio did not have significant unobservable inputs (Level 3) used in determining fair value. Therefore, a reconciliation of assets in which significant unobservable inputs (Level 3) were used in determining fair value is not applicable.

In January, 2010, FASB issued Improving Disclosures about Fair Value Measurements Update (ASU 2010-06, or Update) which amends ASC 820.10.5, formerly FAS 157, effective for the annual periods beginning after December 15, 2009. The Fund has adopted ASU 2010-06 during the semi-annual period ending May 31, 2010. This Update applies to Fund's disclosures for transfers in and out of Level 1 and Level 2 of the fair value hierarchy and the reasons for the transfers as well as to disclosures about the valuation techniques and inputs used to measure fair value for investments that fall in either Level 2 or Level 3 of the fair value hierarchy. This Update excludes disclosures for transfers triggered by fair valuation derived from the fair value pricing models.

2. Foreign Currency Translation: The accounting records of the Fund are maintained in U.S. Dollars. Prices of securities and other assets and liabilities denominated in non-U.S. currencies are translated into U.S. Dollars using the exchange rate at 4:00 p.m., Eastern Standard Time. Amounts related to the purchases and sales of securities, investment income and expenses are translated at the rates of exchange prevailing on the respective dates of such transactions. Net realized gain or loss on foreign currency transactions represents net foreign exchange gains or losses from the closure of forward currency contracts, disposition of foreign currencies, currency gains or losses realized between the trade and settlement dates on security transactions and the difference between the amount of dividends, interest and foreign withholding taxes recorded on the Fund's books and the U.S. Dollar equivalent amount actually received or paid. Net unrealized currency gains and losses arising from valuing foreign currency denominated assets and liabilities, other than security investments, at the current exchange rate are reflected as part of unrealized appreciation/depreciation on foreign currency translation.

The Fund does not isolate that portion of the results of operations arising as a result of changes in the foreign exchange rates from the changes in the market prices of securities held at Period end. The Fund does not isolate the effect of changes in foreign exchange rates from changes in market prices of securities sold during the year. The Fund may invest in foreign securities and foreign currency transactions that may involve risks not associated with domestic investments as a result of the level of governmental supervision and regulation of foreign securities markets and the possibility of political or economic instability, among others.

3. Securities Transactions and Investment Income: Investment security transactions are accounted for as of trade date. Dividend income is recorded on the ex-dividend date. Interest income, which includes amortization of premium and accretion of discount, is accrued as earned. Realized gains and losses from securities transactions are determined on the basis of identified cost for both financial reporting and income tax purposes.

4. Repurchase Agreements: Securities pledged as collateral for repurchase agreements are held by a custodian bank until the agreements mature. Each agreement requires the market value of the collateral to exceed payments of interest and principal. In the event of default by the other party to the agreement, retention of the collateral may be subject to legal proceedings. As of August 31, 2010, the Fund did not hold any repurchase agreements in its portfolio.

5. Leverage: On October 13, 2009, the Fund entered into a Committed Facility Agreement with BNP Paribas Prime Brokerage Inc. (the BNP Paribas Facility), which provides a credit facility to be used as leverage for the Fund. The agreement was amended on July 23, 2010 to allow the Fund to borrow an additional €20 million. As of August 31, 2010 the Fund had \$70,538,505 and €15,000,000 in leverage outstanding under the BNP Paribas Facility.

The BNP Paribas Facility provides for secured, committed lines of credit for the Fund where selected Fund assets are pledged against advances made to the Fund. As of August 31, 2010 the market value of the securities pledged as collateral for the BNP Paribas Facility totaled \$218,858,249.

The Fund pays interest on the outstanding amounts under BNP Paribas Facility at the rate of 100 bps per annum above 3-month LIBOR for the US dollar line and 100 bps per annum above the 3-month EURIBOR for the Euro line. As of August 31, 2010 the accrued interest on the outstanding borrowing by the Fund was \$39,615. For the period ended August 31, 2010, the daily average amounts outstanding under the BNP Paribas Facility was \$88,224,606 with an average rate on the borrowing of 1.36% for US dollar, and €13,500,000 with an average rate on the borrowing of 1.89% for Euro.

6. Lending of Portfolio Securities: The Fund from time to time may lend portfolio securities to broker-dealers and banks. The loans are secured by collateral in the form of cash that is equal to at least 102% of the fair value of the securities loaned plus accrued interest, if any. Upon lending its securities to third parties, the Fund receives compensation in the form of income on the investment of the cash collateral. Gain or loss in the fair value of the securities loaned that may occur during the term of the loan will be for the account of the Fund. The Fund has the right under the lending agreement to recover the securities from the borrower on demand, and loans are subject to termination by the lending Fund or the borrower at any time. While the lending Fund does not have the right to vote securities on loan, it intends, to the extent practicable, to terminate the loan and regain the right to vote if the matter to be voted upon is considered significant with respect to the investment. Additionally, the Fund does not have the right to sell or repledge collateral received in the form of securities unless the borrower goes into default. The risks to the Fund of securities lending are that the borrower may not provide additional collateral when required or return the securities when due. The Fund receives cash collateral which is invested in the Short-Term Investment Trust. This collateral must be valued daily and should the market value of the loaned securities increase the borrower must furnish additional collateral to the lending Fund. The Fund bears the risk of any income or gains and losses from investing and reinvesting cash pledged as collateral. During the time portfolio securities are on loan, the borrower pays the lending Fund the economic equivalent of any dividends or interest paid on such securities. In the event the borrower defaults on its obligation to the lending Fund, the lending Fund could experience delays in recovering its securities and possible capital losses. As of August 31, 2010, the Fund had securities on loan valued at \$5,005,623 and received cash collateral with a value of \$5,266,125.

7. Income Tax: Net unrealized appreciation (depreciation) of investments based on federal tax costs were as follows:

| | |
|--|---------------|
| Gross appreciation (excess of value over tax cost) | \$26,758,260 |
| Gross depreciation (excess of tax cost over value) | (44,686,791) |
| Net unrealized depreciation | (17,928,531) |
| Total cost for federal income tax purposes | \$420,716,807 |

Item 2. Controls and Procedures.

- (a) The registrant's principal executive officer and principal financial officer have evaluated the registrant's disclosure controls and procedures (as defined in Rule 30a-3(c) under the Investment Company Act of 1940) within 90 days of this filing and have concluded that the registrant's disclosure controls and procedures were effective, as of that date.

- (b) There was no change in the registrant's internal control over financial reporting (as defined in Rule 30a-3(d) under the Investment Company Act of 1940) during registrant's last fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

Item 3. Exhibits.

Separate certifications for the registrant's principal executive officer and principal financial officer, as required by Section 302 of The Sarbanes-Oxley Act of 2002 and Rule 30a-2(a) under the Investment Company Act of 1940, are attached as Ex99.CERT.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Macquarie Global Infrastructure Total Return Fund Inc.

By: /s/ Brad Frishberg
Brad Frishberg
Chief Executive Officer/Principal Executive Officer

Date: October 29, 2010

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

By: /s/ Brad Frishberg
Brad Frishberg
Chief Executive Officer/Principal Executive Officer

Date: October 29, 2010

By: /s/ Richard C. Butt
Richard C. Butt
Treasurer, Chief Financial Officer/Principal Financial Officer

Date: October 29, 2010