

**BROWN BROTHERS HARRIMAN
GLOBAL CUSTODY NETWORK LISTING**

Brown Brothers Harriman Trustee Services (Ireland) Limited has delegated safekeeping duties to Brown Brothers Harriman & Co. ("BBH&Co.") with its principal place of business at 140 Broadway, New York, NY 10005, whom it has appointed as its global subcustodian. BBH&Co. has further appointed the entities listed below as its local subcustodians in the specified markets.

The below list includes multiple subcustodians/correspondents in certain markets. Confirmation of which subcustodian/correspondent is holding assets in each of those markets with respect to a client is available upon request. The list does not include prime brokers, third party collateral agents or other third parties who may be appointed from time to time as a delegate pursuant to the request of one or more clients (subject to BBH's approval). Confirmations of such appointments are also available upon request.

<u>COUNTRY</u>	<u>SUBCUSTODIAN</u>
ARGENTINA	CITIBANK, N.A. BUENOS AIRES BRANCH
AUSTRALIA	CITIGROUP PTY LIMITED FOR CITIBANK, N.A
AUSTRALIA	HSBC BANK AUSTRALIA LIMITED FOR THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC)
AUSTRIA	DEUTSCHE BANK AG
AUSTRIA	UNICREDIT BANK AUSTRIA AG
BAHRAIN*	HSBC BANK MIDDLE EAST LIMITED, BAHRAIN BRANCH FOR THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC)
BANGLADESH*	STANDARD CHARTERED BANK, BANGLADESH BRANCH
BELGIUM	BNP PARIBAS SECURITIES SERVICES
BELGIUM	DEUTSCHE BANK AG, AMSTERDAM BRANCH
BERMUDA*	HSBC BANK BERMUDA LIMITED FOR THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC)
BOSNIA*	UNICREDIT BANK D.D. FOR UNICREDIT BANK AUSTRIA AG
BOTSWANA*	STANDARD CHARTERED BANK BOTSWANA LIMITED FOR STANDARD CHARTERED BANK
BRAZIL*	CITIBANK, N.A. SÃO PAULO
BRAZIL*	ITAÚ UNIBANCO S.A.
BULGARIA*	CITIBANK EUROPE PLC, BULGARIA BRANCH FOR CITIBANK N.A.
CANADA	CIBC MELLON TRUST COMPANY FOR CIBC MELLON TRUST COMPANY, CANADIAN IMPERIAL BANK OF COMMERCE AND BANK OF NEW YORK MELLON
CANADA	RBC INVESTOR SERVICES TRUST FOR ROYAL BANK OF CANADA (RBC)
CHILE*	BANCO DE CHILE FOR CITIBANK, N.A.
CHINA*	BANK OF CHINA LIMITED

<u>COUNTRY</u>	<u>SUBCUSTODIAN</u>
CHINA*	CHINA CONSTRUCTION BANK CORPORATION
CHINA*	CITIBANK (CHINA) CO., LTD. FOR CITIBANK N.A.
CHINA*	DEUTSCHE BANK (CHINA) CO., LTD., SHANGHAI BRANCH ** Use of this subcustodian is restricted. **
CHINA*	HSBC BANK (CHINA) COMPANY LIMITED FOR THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC)
CHINA*	INDUSTRIAL AND COMMERCIAL BANK OF CHINA LIMITED
CHINA*	STANDARD CHARTERED BANK (CHINA) LIMITED FOR STANDARD CHARTERED BANK
COLOMBIA*	CITITRUST COLOMBIA S.A., SOCIEDAD FIDUCIARIA FOR CITIBANK, N.A
CROATIA*	ZAGREBACKA BANKA D.D. FOR UNICREDIT BANK AUSTRIA AG
CYPRUS	BNP PARIBAS SECURITIES SERVICES
CZECH REPUBLIC	CITIBANK EUROPE PLC, ORGANIZAČNÍ SLOZKA FOR CITIBANK, N.A.
DENMARK	NORDEA DANMARK, FILIAL AF NORDEA BANK ABP, FINLAND
DENMARK	SKANDINAVISKA ENSKILDA BANKEN AB (PUBL), DANMARK BRANCH
EGYPT*	CITIBANK, N.A. - CAIRO BRANCH
EGYPT*	HSBC BANK EGYPT S.A.E. FOR THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC)
ESTONIA	SWEDBANK AS FOR NORDEA BANK ABP
ESWATINI*	STANDARD BANK ESWATINI LTD. FOR STANDARD BANK OF SOUTH AFRICA LIMITED
FINLAND	NORDEA BANK ABP
FINLAND	SKANDINAVISKA ENSKILDA BANKEN AB (PUBL), HELSINKI BRANCH
FRANCE	BNP PARIBAS SECURITIES SERVICES
FRANCE	CACEIS BANK
FRANCE	DEUTSCHE BANK AG, AMSTERDAM BRANCH
GERMANY	BNP PARIBAS SECURITIES SERVICES - FRANKFURT BRANCH
GERMANY	DEUTSCHE BANK AG
GHANA*	STANDARD CHARTERED BANK GHANA LIMITED FOR STANDARD CHARTERED BANK
GREECE	HSBC FRANCE, ATHENS BRANCH FOR THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC)

<u>COUNTRY</u>	<u>SUBCUSTODIAN</u>
HONG KONG	STANDARD CHARTERED BANK (HONGKONG) LIMITED FOR STANDARD CHARTERED BANK
HONG KONG	THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC)
HONG KONG – BOND CONNECT	STANDARD CHARTERED BANK (HONGKONG) LIMITED FOR STANDARD CHARTERED BANK
HONG KONG – BOND CONNECT	THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC)
HONG KONG – STOCK CONNECT	THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC)
HUNGARY	CITIBANK EUROPE PLC, HUNGARIAN BRANCH OFFICE FOR CITIBANK, N.A.
HUNGARY	UNICREDIT BANK HUNGARY ZRT FOR UNICREDIT BANK HUNGARY ZRT AND UNICREDIT S.P.A.
ICELAND*	LANDSBANKINN HF.
INDIA*	CITIBANK, N.A. - MUMBAI BRANCH
INDIA*	DEUTSCHE BANK AG - MUMBAI BRANCH
INDIA*	THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC) - INDIA BRANCH
INDONESIA	CITIBANK, N.A. - JAKARTA BRANCH
INDONESIA	STANDARD CHARTERED BANK, INDONESIA BRANCH
IRELAND	CITIBANK, N.A. - LONDON BRANCH
ISRAEL	BANK HAPOALIM BM
ISRAEL	CITIBANK, N.A., ISRAEL BRANCH
ITALY	BNP PARIBAS SECURITIES SERVICES - MILAN BRANCH
ITALY	SOCIÉTÉ GÉNÉRALE SECURITIES SERVICES S.P.A. (SGSS S.P.A.)
IVORY COAST*	STANDARD CHARTERED BANK COTE D'IVOIRE FOR STANDARD CHARTERED BANK
JAPAN	MIZUHO BANK LTD
JAPAN	MUFG BANK, LTD.
JAPAN	SUMITOMO MITSUI BANKING CORPORATION
JORDAN*	STANDARD CHARTERED BANK, JORDAN BRANCH
KAZAKHSTAN*	JSC CITIBANK KAZAKHSTAN FOR CITIBANK, N.A.

<u>COUNTRY</u>	<u>SUBCUSTODIAN</u>
KENYA*	STANDARD CHARTERED BANK KENYA LIMITED FOR STANDARD CHARTERED BANK
KUWAIT*	HSBC BANK MIDDLE EAST LIMITED - KUWAIT BRANCH FOR THE HONGKONG AND SHANGHAI BANKING CORPORATION LTD. (HSBC)
LATVIA	"SWEDBANK" AS FOR NORDEA BANK ABP
LITHUANIA	"SWEDBANK" AB FOR NORDEA BANK ABP
LUXEMBOURG	BNP PARIBAS SECURITIES SERVICES, LUXEMBOURG BRANCH *** Utilized for mutual funds holdings only. ***
LUXEMBOURG	KBL EUROPEAN PRIVATE BANKERS S.A.
MALAYSIA*	HSBC BANK MALAYSIA BERHAD (HBMB) FOR THE HONGKONG AND SHANGHAI BANKING CORPORATION LTD. (HSBC)
MALAYSIA*	STANDARD CHARTERED BANK MALAYSIA BERHAD FOR STANDARD CHARTERED BANK
MAURITIUS*	THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC) - MAURITIUS BRANCH
MEXICO	BANCO NACIONAL DE MEXICO, SA (BANAMEX) FOR CITIBANK, N.A.
MEXICO	BANCO S3 MEXICO, S.A. INSTITUCION DE BANCA MULTIPLE FOR BANCO SANTANDER, S.A. AND BANCO S3 MEXICO, S.A. INSTITUCION DE BANCA MULTIPLE
MOROCCO	CITIBANK MAGHREB S.A. FOR CITIBANK, N.A.
NAMIBIA*	STANDARD BANK NAMIBIA LTD. FOR STANDARD BANK OF SOUTH AFRICA LIMITED
NETHERLANDS	BNP PARIBAS SECURITIES SERVICES
NETHERLANDS	DEUTSCHE BANK AG, AMSTERDAM BRANCH
NEW ZEALAND	THE HONGKONG AND SHANGHAI BANKING CORPORATON LIMITED (HSBC) - NEW ZEALAND BRANCH
NIGERIA*	STANBIC IBTC BANK PLC FOR STANDARD BANK OF SOUTH AFRICA LIMITED
NORWAY	NORDEA BANK ABP, FILIAL I NORGE
NORWAY	SKANDINAVISKA ENSKILDA BANKEN AB (PUBL), OSLO
OMAN*	HSBC BANK OMAN SAOG FOR THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC)
PAKISTAN*	STANDARD CHARTERED BANK (PAKISTAN) LIMITED FOR STANDARD CHARTERED BANK
PERU*	CITIBANK DEL PERÚ S.A. FOR CITIBANK, N.A.
PHILIPPINES*	STANDARD CHARTERED BANK - PHILIPPINES BRANCH

<u>COUNTRY</u>	<u>SUBCUSTODIAN</u>
PHILIPPINES*	THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC) - PHILIPPINE BRANCH
POLAND	BANK HANDLOWY W WARSZAWIE SA (BHW) FOR CITIBANK NA
POLAND	BANK POLSKA KASA OPIEKI SA
POLAND	ING BANK SLASKI S.A. FOR ING BANK N.V.
PORTUGAL	BNP PARIBAS SECURITIES SERVICES
QATAR*	HSBC BANK MIDDLE EAST LTD - QATAR BRANCH FOR THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC)
ROMANIA	CITIBANK EUROPE PLC, DUBLIN - SUCURSALA ROMANIA FOR CITIBANK, N.A.
RUSSIA*	AO CITIBANK FOR CITIBANK, N.A.
SAUDI ARABIA*	HSBC SAUDI ARABIA AND THE SAUDI BRITISH BANK (SABB) FOR THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC)
SERBIA*	UNICREDIT BANK SERBIA JSC FOR UNICREDIT BANK AUSTRIA AG
SINGAPORE	DBS BANK LTD (DBS)
SINGAPORE	STANDARD CHARTERED BANK (SINGAPORE) LIMITED FOR STANDARD CHARTERED BANK
SINGAPORE	THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC) - SINGAPORE BRANCH
SLOVAKIA	CITIBANK EUROPE PLC, POBOČKA ZAHRANIČNEJ BANKY FOR CITIBANK, N.A.
SLOVENIA	UNICREDIT BANKA SLOVENIJA DD FOR UNICREDIT BANKA SLOVENIJA DD AND UNICREDIT S.P.A.
SOUTH AFRICA	STANDARD BANK OF SOUTH AFRICA LIMITED (SBSA)
SOUTH AFRICA	STANDARD CHARTERED BANK, JOHANNESBURG BRANCH
SOUTH KOREA*	CITIBANK KOREA INC. FOR CITIBANK, N.A.
SOUTH KOREA*	KEB HANA BANK
SOUTH KOREA*	THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED - KOREA BRANC
SPAIN	BANCO BILBAO VIZCAYA ARGENTARIA SA
SPAIN	BNP PARIBAS SECURITIES SERVICES, SUCURSAL EN ESPAÑA
SPAIN	SOCIÉTÉ GÉNÉRALE SUCURSAL EN ESPAÑA

<u>COUNTRY</u>	<u>SUBCUSTODIAN</u>
SRI LANKA*	THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC) - SRI LANKA BRANCH
SWEDEN	NORDEA BANK ABP, FILIAL I SVERIGE
SWEDEN	SKANDINAVISKA ENSKILDA BANKEN AB (PUBL)
SWITZERLAND	CREDIT SUISSE (SWITZERLAND) LTD.
SWITZERLAND	UBS SWITZERLAND AG
TAIWAN*	BANK OF TAIWAN
TAIWAN*	HSBC BANK (TAIWAN) LIMITED FOR THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC)
TAIWAN*	STANDARD CHARTERED BANK (TAIWAN) LTD FOR STANDARD CHARTERED BANK
TANZANIA*	STANDARD CHARTERED BANK TANZANIA LIMITED AND STANDARD CHARTERED BANK (MAURITIUS) LIMITED FOR STANDARD CHARTERED BANK
THAILAND	THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC) - THAILAND BRANCH
THAILAND*	STANDARD CHARTERED BANK (THAI) PUBLIC COMPANY LIMITED FOR STANDARD CHARTERED BANK
TRANSNATIONAL (CLEARSTREAM)	BROWN BROTHERS HARRIMAN & CO. (BBH&CO.)
TRANSNATIONAL (EUROCLEAR)	BROWN BROTHERS HARRIMAN & CO. (BBH&CO.)
TUNISIA*	UNION INTERATIONALE DE BANQUES (UIB)
TURKEY	CITIBANK ANONIM SIRKETI FOR CITIBANK, N.A.
TURKEY	DEUTSCHE BANK A.S. FOR DEUTSCHE BANK A.S. AND DEUTSCHE BANK AG
UGANDA*	STANDARD CHARTERED BANK UGANDA LIMITED FOR STANDARD CHARTERED BANK
UKRAINE*	JOINT STOCK COMPANY "CITIBANK" (JSC "CITIBANK") FOR CITIBANK, N.A.
UNITED ARAB EMIRATES*	HSBC BANK MIDDLE EAST LIMITED FOR THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC)
UNITED KINGDOM	CITIBANK, N.A., LONDON BRANCH
UNITED KINGDOM	HSBC BANK PLC
UNITED STATES	BBH&CO.
URUGUAY	BANCO ITAÚ URUGUAY S.A. FOR BANCO ITAÚ URUGUAY S.A. AND ITAÚ UNIBANCO S.A.

<u>COUNTRY</u>	<u>SUBCUSTODIAN</u>
VIETNAM*	HSBC BANK (VIETNAM) LTD. FOR THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED (HSBC)
ZAMBIA*	STANDARD CHARTERED BANK ZAMBIA PLC FOR STANDARD CHARTERED BANK
ZIMBABWE*	STANDARD CHARTERED BANK ZIMBABWE LIMITED FOR STANDARD CHARTERED BANK

* In these markets, cash held by clients is a deposit obligation of the subcustodian. For all other markets, cash held by clients is a deposit obligation of BBH & Co. or one of its affiliates.