

COUNTRY	SUB-CUSTODIAN	LOCAL SUB-CUSTODIAN
ARGENTINA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	CITIBANK N.A. - BUENOS AIRES BRANCH
AUSTRALIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	HSBC BANK AUSTRALIA LIMITED
AUSTRIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	UNICREDIT BANK AUSTRIA AG
BAHRAIN	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	HSBC BANK MIDDLE EAST LIMITED, BAHRAIN BRANCH
BANGLADESH	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK, BANGLADESH BRANCH
BELGIUM	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	BNP PARIBAS SECURITIES SERVICES
BERMUDA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	HSBC BANK OF BERMUDA LIMITED
BOSNIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	UNICREDIT BANK D.D. (HUB MARKET SERVICED OUT OF UNICREDIT BANK AUSTRIA)
BOTSWANA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK BOTSWANA LIMITED
BRAZIL	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	CITIBANK N.A., SÃO PAULO
BULGARIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	CITIBANK EUROPE PLC, BULGARIA BRANCH
CANADA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	RBC INVESTOR SERVICES TRUST
CHILE	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	BANCO DE CHILE
CHINA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK (CHINA) LIMITED - SHANGHAI
COLOMBIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	CITITRUST COLOMBIA S.A., SOCIEDAD FIDUCIARIA
COSTA RICA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	BANCO BCT SA
CROATIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	ZAGREBACKA BANKA D.D. (HUB MARKET SERVICED OUT OF UNICREDIT BANK AUSTRIA)
CYPRUS	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	BNP PARIBAS SECURITIES SERVICES
CZECH REPUBLIC	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	CITIBANK EUROPE PLC PRAGUE BRANCH
DENMARK	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	SKANDINAVISKA ENSKILDA BANKEN AB (PUBL), DANMARK BRANCH
ECUADOR	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	BANCO DE LA PRODUCCION S.A.
EGYPT	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	CITIBANK N.A. - CAIRO BRANCH
ESTONIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	SWEDBANK AS (HUB MARKET SERVICED OUT OF NORDEA BANK ABP)
FINLAND	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	NORDEA BANK ABP
FRANCE	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	CACEIS BANK
GERMANY	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	DEUTSCHE BANK AG
GHANA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK GHANA LTD
GREECE	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	HSBC FRANCE, ATHENS BRANCH
HONG KONG	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED
HUNGARY	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	UNICREDIT BANK HUNGARY ZRT
ICELAND	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	LANDSBANKINN HF
INDIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	DEUTSCHE BANK AG - MUMBAI BRANCH
INDIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED, INDIA BRANCH
INDONESIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK, INDONESIA BRANCH
IRELAND	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	CITIBANK, N.A., LONDON BRANCH
ISRAEL	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	BANK HAPOALIM BM
ITALY	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	BNP PARIBAS SECURITIES SERVICES, MILAN BRANCH
IVORY COAST	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK COTE D'IVOIRE
JAPAN	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	MUFG BANK, LTD
JORDAN	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK, JORDAN BRANCH
KENYA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK KENYA LIMITED
KUWAIT	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	HSBC BANK MIDDLE EAST LIMITED, KUWAIT BRANCH
LATVIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	"SWEDBANK" AS (HUB MARKET SERVICED OUT OF NORDEA BANK ABP)
LITHUANIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	"SWEDBANK" AB (HUB MARKET SERVICED OUT OF NORDEA BANK ABP)

LUXEMBOURG	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	KBL EUROPEAN PRIVATE BANKERS SA
LUXEMBOURG	UBS LUXEMBOURG S.A.	
MALAYSIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK MALAYSIA BERHAD
MAURITIUS	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	THE HONGKONG AND SHANGHAI BANKING CORPORATION LIMITED, MAURITIUS BRANCH
MEXICO	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	BANCO S3 MEXICO, S.A INSTITUCION DE BANCA MULTIPLE
MOROCCO	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	CITIBANK MAGHREB S.A.
NAMIBIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD BANK NAMIBIA LIMITED
NETHERLANDS	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	BNP PARIBAS SECURITIES SERVICES
NEW ZEALAND	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	THE HONGKONG AND SHANGHAI BANKING CORPORATION, NEW ZEALAND BRANCH
NIGERIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANBIC IBTC BANK PLC
NORWAY	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	SKANDINAVISKA ENSKILDA BANKEN AB (PUBL), OSLO BRANCH
OMAN	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	HSBC BANK OMAN SAOG
PAKISTAN	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK (PAKISTAN) LIMITED
PERU	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	CITIBANK DEL PERU S.A.
PHILIPPINES	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK, PHILIPPINES BRANCH
POLAND	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	BANK POLSKA KASA OPIEKI SA
PORTUGAL	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	BNP PARIBAS SECURITIES SERVICES
QATAR	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	HSBC BANK MIDDLE EAST LIMITED, QATAR BRANCH
ROMANIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	CITIBANK EUROPE PLC, DUBLIN - SUCURSALA ROMANIA
RUSSIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	AO CITIBANK
RWANDA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	KCB BANK RWANDA LIMITED (SCB'S APPOINTED AGENT) VIA STANDARD CHARTERED BANK (MAURITIUS) LIMITED (OPERATIONAL SERVICE HUB)
SAUDIA ARABIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	HSBC SAUDI ARABIA
SERBIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	UNICREDIT BANK SERBIA JSC (HUB MARKET SERVICED OUT OF UNICREDIT BANK AUSTRIA)
SINGAPORE	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK, SINGAPORE BRANCH
SLOVAKIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	CITIBANK EUROPE PLC, POBOČKA ZAHRAŇIČNEJ BANKY
SLOVENIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	UNICREDIT BANKA SLOVENIJA D.D.
SOUTH AFRICA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK JOHANNESBURG BRANCH
SOUTH KOREA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	THE HONGKONG AND SHANGHAI BANKING CORPORATION, KOREA BRANCH
SPAIN	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	SOCIETE GENERALE SUCURSAL EN ESPAÑA
SRI LANKA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	THE HONGKONG AND SHANGHAI BANKING CORPORATION, SRI LANKA BRANCH
SWAZILAND	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD BANK SWAZILAND LTD
SWEDEN	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	SKANDINAVISKA ENSKILDA BANKEN AB (PUBL)
SWITZERLAND	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	UBS SWITZERLAND AG
TAIWAN	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK (TAIWAN) LTD
TANZANIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK (TANZANIA) LIMITED VIA STANDARD CHARTERED BANK (MAURITIUS) LIMITED OPERATIONAL HUB
THAILAND	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK (THAI) PUBLIC COMPANY LIMITED
THAILAND	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	THE HONGKONG AND SHANGHAI BANKING CORPORATION ("HSBC"), THAILAND BRANCH
TUNISIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	UNION INTERNATIONALE DE BANQUES (UIB)
TURKEY	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	CITIBANK ANONIM SIRKETI
UGANDA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK UGANDA LIMITED
UKRAINE	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	PJSC "CITIBANK"
UNITED ARAB EMIRATES	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	HSBC BANK MIDDLE EAST LIMITED

UNITED KINGDOM	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	HSBC BANK PLC
UNITED STATES	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	BROWN BROTHERS HARRIMAN USA
UNITED STATES	MITSUBISHI UFJ TRUST AND BANKING CORPORATION, USA	DEPOSITORY TRUST COMPANY
UNITED STATES	MITSUBISHI UFJ TRUST AND BANKING CORPORATION, USA	BROWN BROTHERS HARRIMAN USA
URUGUAY	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	BANCO ITAU URUGUAY SA
VIETNAM	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	HSBC BANK (VIETNAM) LTD
ZAMBIA	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK ZAMBIA PLC
ZIMBABWE	BROWN BROTHERS HARRIMAN (LUXEMBOURG) S.C.A.	STANDARD CHARTERED BANK ZIMBABWE LIMITED

## BONDS

COUNTRY	SUB-CUSTODIAN	LOCAL SUB-CUSTODIAN
ARGENTINA	EUROCLEAR BRUSSELS S.A.	CAJA DE VALORES BUENOS AIRES
AUSTRALIA	EUROCLEAR BRUSSELS S.A.	HSBC AUSTRALIA
AUSTRIA	EUROCLEAR BRUSSELS S.A.	OSTERREICHISCHE KONTROLLBANK WIEN
BELGIUM	EUROCLEAR BRUSSELS S.A.	BANQUE NATIONALE DE BELGIQUE, BXL
CANADA	EUROCLEAR BRUSSELS S.A.	ROYAL BANK OF CANADA, TORONTO
DENMARK	EUROCLEAR BRUSSELS S.A.	VP-VAERDIPAPIRCENTRALEN TAASTRUP
FINLAND	EUROCLEAR BRUSSELS S.A.	EFI RAMSES
FRANCE	EUROCLEAR BRUSSELS S.A.	BP2S LISBOA
FRANCE	EUROCLEAR BRUSSELS S.A.	EUROCLEAR FRANCE
GERMANY	EUROCLEAR BRUSSELS S.A.	CLEARSTREAM BANKING, FRANKFURT
GERMANY	EUROCLEAR BRUSSELS S.A.	DEUTSCHE BANK, FRANKFURT
GREECE	EUROCLEAR BRUSSELS S.A.	CITIBANK ATHENS
HONG KONG	EUROCLEAR BRUSSELS S.A.	DEUTSCHE BANK AG,HONG KONG
HONG KONG	EUROCLEAR BRUSSELS S.A.	HONGKONG SHANGHAI BKG CORP,HKG
HUNGARY	EUROCLEAR BRUSSELS S.A.	CITIBANK BUDAPEST
IRELAND	EUROCLEAR BRUSSELS S.A.	CENTRAL BK/FIN SERV AUTH IRELAND
IRELAND	EUROCLEAR BRUSSELS S.A.	US BANK - COMMON DEP
ITALY	EUROCLEAR BRUSSELS S.A.	MONTE TITOLI S.P.A.
JAPAN	EUROCLEAR BRUSSELS S.A.	MIZUHO CORPORATE BANK LTD, TOKYO
LUXEMBOURG	EUROCLEAR BRUSSELS S.A.	BIL, LUXEMBOURG
LUXEMBOURG	EUROCLEAR BRUSSELS S.A.	BNP PARIBAS SEC SERVICES, LUX
LUXEMBOURG	EUROCLEAR BRUSSELS S.A.	BQUE CAISSE D'EPARG. DE L'ETAT
LUXEMBOURG	EUROCLEAR BRUSSELS S.A.	CACEIS BANK LUXEMBOURG
LUXEMBOURG	EUROCLEAR BRUSSELS S.A.	MIZUHO TRUST & BANKING LUX
LUXEMBOURG	EUROCLEAR BRUSSELS S.A.	SOC.GEN.BANK & TRUST, LUXEMBOURG
MEXICO	EUROCLEAR BRUSSELS S.A.	BANCO SANTANDER, MEXICO
NETHERLANDS	EUROCLEAR BRUSSELS S.A.	EUROCLEAR NEDERLAND
NEW ZEALAND	EUROCLEAR BRUSSELS S.A.	HSBC NEW ZEALAND
NORWAY	EUROCLEAR BRUSSELS S.A.	NORDEA BANK NORGE ASA
POLAND	EUROCLEAR BRUSSELS S.A.	BANK HANDLOWY W WARSZAWIE SA
RUSSIAN FEDERAT	EUROCLEAR BRUSSELS S.A.	JSC VTB BANK, MOSCOW
SINGAPORE	EUROCLEAR BRUSSELS S.A.	DEVELOPMENT BK OF SINGAPORE
SLOVAKIA	EUROCLEAR BRUSSELS S.A.	CITIBANK BRATISLAVA
SOUTH AFRICA	EUROCLEAR BRUSSELS S.A.	STANDARD BANK OF SOUTH AFRICA
SPAIN	EUROCLEAR BRUSSELS S.A.	SANTANDER CENTRAL HISPANO INVESTM
SWEDEN	EUROCLEAR BRUSSELS S.A.	SKANDINAVISKA ENSKILDA BK,STOK
SWITZERLAND	EUROCLEAR BRUSSELS S.A.	CREDIT SUISSE, ZURICH
THAILAND	EUROCLEAR BRUSSELS S.A.	BANGKOK BANK LIMITED, BANGKOK
UNITED KINGDOM	EUROCLEAR BRUSSELS S.A.	BANK OF AMERICA NAT ASSOC
UNITED KINGDOM	EUROCLEAR BRUSSELS S.A.	BANK OF NEW YORK MELLON, LONDON
UNITED KINGDOM	EUROCLEAR BRUSSELS S.A.	MUFG BANK LONDON BRANCH
UNITED KINGDOM	EUROCLEAR BRUSSELS S.A.	CITIBANK EUROPE PLC, DUBLIN
UNITED KINGDOM	EUROCLEAR BRUSSELS S.A.	CITIBANK NA, LONDON
UNITED KINGDOM	EUROCLEAR BRUSSELS S.A.	CREST-EQUITIES
UNITED KINGDOM	EUROCLEAR BRUSSELS S.A.	DEUTSCHE BANK AG, LONDON BRANCH
UNITED KINGDOM	EUROCLEAR BRUSSELS S.A.	HSBC BANK PLC, LONDON
UNITED STATES	EUROCLEAR BRUSSELS S.A.	JPMORGAN CHASE BANK,NY

## PRIME BROKERS



COUNTRY

UNITED KINGDOM	MORGAN STANLEY LONDON
UNITED KINGDOM	UBS LONDON