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FINANCIAL ADVISORY & BANKING

Blockchain Bond

Introduction
M. Coskun Cangöz, Manager, Government Debt and Risk Management, World Bank Treasury

Speakers
Andrea Dore, Head of Funding, World Bank Treasury
Paul Snaith, Manager, Treasury Operations Capital Markets, World Bank Treasury
Markus Stix, Managing Director, Austrian Treasury

Moderator
Mats Filipsson, Senior Financial Officer, Financial Advisory & Banking, World Bank Treasury

Thursday, November 29, 2018
9:00 a.m. – 10:30 a.m. | DC Time

Agenda

8:30 - 9:00 a.m.

Participants are requested to connect to the conference call to ensure a prompt start at 9am.

9:00 - 9:05 a.m.   Welcome and introduction

Coskun Cangoz, Manager, Government Debt and Risk Management, World Bank Treasury

9:05 – 9:20 a.m.   Recent involvement of the Blockchain Bond

Andrea Dore, Head of Funding, Capital Markets Department, World Bank Treasury

9:20 – 9:50 a.m.   Background on the Blockchain Bond, bond-i

Paul Snaith, Manager, Treasury Operations Capital Markets, World Bank Treasury

9:50 – 10:00 a.m.   Austria's Blockchain experience at government bond auctions

Markus Stix, Managing Director, Austrian Treasury

10:00 – 10:25 a.m. Q&A session

10:25 – 10:30 a.m. Wrap-up and closing

Mats Filipsson, Senior Financial Officer, World Bank Treasury

SPEAKER

M. Coskun Cangöz

Manager

Government Debt and Risk Management

World Bank Treasury

SPEAKER

Andrea Dore

Head of Funding

Capital Markets Department

World Bank Treasury

World Bank's Global Blockchain Bond
bond-*i* Transaction Overview

On August 23, 2018, the World Bank issued the **world's first** legally binding bond operated on a **global blockchain platform** throughout its life cycle. The bonds are **created, registered, allocated,** and **transferred** on the platform.

The Process

- The World Bank **launches bond-*i*** on a private **permissioned blockchain** platform.
- **Pre-authorized** investors use their authentication key and enter **bids** onto the platform through the web-interface
- The World Bank observes **book-building** in real-time
- **Pricing** is finalized
- **Investors** update their bids, supported by **direct communication** with the **World Bank** enabled through an **online communication function**
- **Investors see** their own **bids** and **allocation** in **real time**
- The **register** is based on the blockchain ledger and **held by CBA** in Sydney
- **Cash settlement** is "off-chain"

Issuer	World Bank (International Bank for Reconstruction & Development, IBRD)
Issuer rating	Aaa/AAA
Maturity	2 years
Amount	$110 million
Settlement date	28 August 2018
Maturity date	28 August 2020
Coupon	2.20% p.a. payable semi-annually in arrear
Re-offer price	99.901%
Re-offer yield	2.251% semi-annual
Denomination	AUD 1000. The minimum denomination payable when issued in Australia: AUD 500,000
ISIN	AU0000020612
Lead Manager	Commonwealth Bank of Australia

Investor Breakdown

- Official Institutions 37%
- Asset Managers 18%
- Bank…
- Insurance 18%

SPEAKER

Paul Snaith

Manager

Treasury Operations Capital Markets

World Bank Treasury

World Bank Global Blockchain Bond
Benefits

Using blockchain for bond issuance has the **potential to streamline processes** among numerous debt capital market intermediaries and agents. This **can help simplify raising capital and trading securities, improve operational efficiencies,** and **enhance regulatory oversight**.

Key benefits of bond-*i* include:

- **Learning:** Learning opportunity for the World Bank – not only for capital market development purposes, but also to harness the potential of disruptive technologies in areas such as land administration, supply chain management, health, education, cross-border payments, and carbon market-trading.

- **Efficiency:** A single, verifiable and continuous source of information through the **distributed ledger** eliminates reconciliation

- **Transparency:** Increased real-time information for investors and issuers.

- **Automation:** Smart contracts apply rules, then automate and streamline processes.

- **Auditing and reporting:*** Automated reporting improves reporting for investors, issuers and regulators. The immutable, append-only platform gives a single, common source of truth.

* Transactions with an added regulator node, would have additional transparency as the regulator could also directly see all activity on the platform, in real-time.

SPEAKER

Markus Stix

Managing Director Austrian Treasury

DMO Republic of Austria

Republic of Austria

Blockchain technology at government bond auctions

- October 2, 2018: Start of blockchain application to notarize reports related to the auction of Austrian government bonds (dual-tap amounting to EUR 1.15 billion)

- Motivation: improvement of process by which auction data can be authenticated by auction participants

- Primary dealers can now check authenticity/integrity of their reports by calculating hashes of ADAS reports (Austrian Direct Auction System) and compare them with the hashes stored by OeKB (=auction system provider) in the blockchain

- Only hashes are stored in the blockchain, not actual auction data (security reasons).

- The auction procedure remained fully unchanged using existing high security standards. Auction participants were not required to adapt their IT systems

- This blockchain-based validation process will from now on be used in every upcoming Austrian government bond auction. Further improvements are already planned (e.g. online verification-tool for auction participants).

- This additional layer of security helps to underpin confidence and trust in the auction process, and further strengthens the good standing of Austria on the capital markets. It contributes to the goal of the Austrian government to engage in pioneering innovation activities in the FinTech area.

Blockchain Bond