

Pays XDR: The most stable global digital currency

Abstract

The Pays XDR is a stablecoin that is (i) strictly and fully secured by the same basket of five currencies as the International Monetary Fund (IMF)'s Special Drawing Rights, and (ii) built on the Stellar network according to the standard for tokens. The Pays XDR is a stable value coin that combines the price stability of the XDR with the technological advantages of distributed ledger technology.

1. Introduction

Stablecoins have recently surged in interest by claiming to offer a more reliable digital currency which acts as a unit of account rather than a vehicle for speculation. While they bear a promise as profound as the Internet itself, they suffer from substantial price volatility and are not accessible for payments. This has led to a lack of trust and hindered their use as a medium of exchange and unit of account (two of the three functions of money).

Several implementations of stablecoins have been proposed and launched, however, they all lack some combination of global stability in value, transparency and importantly, utility as a means of payment. As a result, doubts surrounding their solvency persist, as do concerns regarding the systemic risks they pose. What is needed is a stablecoin that people can trust and is stable in value against any currency. The International Monetary Fund (IMF) has defined and maintained the Special Drawing Right: [Right: \(https://www.imf.org/en/About/Factsheets/Sheets/2016/08/01/14/51/Special-Drawing-Right-SDR\)](https://www.imf.org/en/About/Factsheets/Sheets/2016/08/01/14/51/Special-Drawing-Right-SDR) since 1969, is a highly stable medium of exchange, as well as a recognized unit of account and is a desirable model for a global stablecoin. In this paper, we propose the Pays XDR a stablecoin that combines the methodology of the IMF's Special Drawings Rights and its inherent price stability with the technological advantages of distributed ledger technology.

2. IMF Special Drawing Rights/Background

Pays XDR strictly follows the composition of the basket currencies as defined and maintained by the IMF for their Special Drawing Rights.

The IMF created the Special Drawing Rights with the goal to create a global currency to vitiate the problem known as the Triffin dilemma:

"as long as the U.S. dollar was the primary international reserve asset, a growing level of world trade and finance required a growing stock of dollars in international supply. That growing stock, however, required persistent deficits in the U.S. balance of payments and thus was a threat to the stable value of the dollar."

The solution is a global currency, the Special Drawing Rights, that is disconnected from individual nations and will remain stable in value in the long run. The Special Drawing Rights has been assigned the ISO 4217 currency code "XDR" and is quoted on Bloomberg.

2.1 Overview of XDR methodology

Every five years, the IMF reviews the currencies included in the basket by reviewing the exports of goods and services during the five-year period ending 12 months before the effective review date and had the largest value that are “freely usable”.

At the latest review in 2015, the IMF established the following weights:

- 41.73 % U.S. Dollar
- 30.93% Euro
- 10.92 % Chinese Yuan
- 8.33% Japanese Yen
- 8.09 % British Pound Sterling

The next official reconstitution of the XDR will be in 2020 and will take effect in 2021.

2.2 Inherent property of the XDR

The exchange rate of the XDR will fluctuate less than any currency within the basket. Therefore, XDR serves as a method for diversification and as a hedge against currency risk. Regardless of the investor’s currency base, the XDR serves as a convenient risk diversified because as a basket, its value is based on component instruments that are imperfectly correlated with each other. By holding and transacting in the XDR, the investor avoids administration, maintenance and large foreign exchange transaction costs on continuous rebalancing of their currency hedge.

2.3 Existing uses of XDR

Current accounting uses of the XDR include transit fees in the Suez Canal, charges for overweight baggage for some airlines, as an accounting unit for The Arab Monetary Fund where the Arab Accounting Dinar is equivalent to three units of XDRs.

3. Pays XDR as Global Digital Money

Pays XDR digital currency strictly follows the methodology of the XDR of the IMF and leverages distributed ledger technology for widespread adoption.

3.1. Stellar blockchain-based distributed ledger

Cryptographic tokens will be issued on the Stellar network (<https://www.stellar.org/>) to represent each unit of Pays XDR. Stellar network was

chosen as it is asymptotically secure meaning that no amount of computing power can override consensus, anyone with internet can use access the network, transactions are near free (1 USD covers 2.5 million transactions) and transactions only require 3-5 seconds to complete.

3.2. Proof of solvency

Proving the amount of Pays XDR tokens issued and the total value reserves of the five underlying fiat currencies ensures against solvency risk. The amount of tokens issued and in circulation can be observed on the Stellar blockchain using services such as stellar.expert. The underlying fiat balances to it will be examined and verified monthly by a top audit firm.

3.3. Creation, redemption and transfer on Pays wallet

The “Pays wallet” (<http://paysxdr.com>) is proposed as the first place to take advantage of the Pays XDR. The Pays wallet includes the following features:

- KYC verification
- Purchase
- Redeem
- Hold
- Send
- Receive

Registered and verified users of the Pays wallet may exchange U.S. Dollars, Euro’s or British Sterling at the XDR exchange rate for Pays XDR. Pays XDR tokens are issued to the user’s Pays wallet at the time of exchange. By initiating a redemption inside the Pays wallet, users exchange Pays XDR for a currency of their choice to a card or an account they specify. In the near future, Pays XDR will be transferable on the Stellar network, listed on the Stellar Decentralised Exchange and on several reputable cryptocurrency exchanges.

4. Conclusion

We propose a global solution for a stablecoin which establishes trust through cryptographic proof and regular audits. Our technical design is implemented on the Stellar network. To initiate usage of the Pays XDR, a secure user-friendly “Pays Wallet” is proposed. Together, these implementations form the Pays XDR, a fully audited stablecoin that can serve as a store of value, a means of payment and unit of account for digital applications of any kind in any place in the world.