



Blockchain

Redeemer of Remittance Industry's Woes

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The age of globalization has seen a high incidence of migration from one country to another for various socio-economic needs. This is particularly true for people belonging to Low and Middle-Income Countries (LMICs), where higher aspirations drag them across borders. According to the World Migration Report published by IOM, there are about 244 million immigrants globally. This trend in global immigration has led to the financial phenomenon of remittance.

Remittance is the hard-earned money that an expatriate sends to his family or loved ones, for

funding basic needs such as food, education, and healthcare. According to the latest Migration and Remittances brief published by the World Bank, global remittance flows stood at USD 613 billion, while in LMICs alone, it grew by 8.5%, reaching USD 466 billion. Remittances are one of the chief contributors to the GDP in LMICs. To put things into perspective, remittances contribute to about 29% of Nepal's GDP, 27% of Liberia's GDP, and 10% of Philippines'. In fact, in LMICs, it is more than three times the official development assistance. Remittances play a big role in financial inclusion and poverty alleviation.

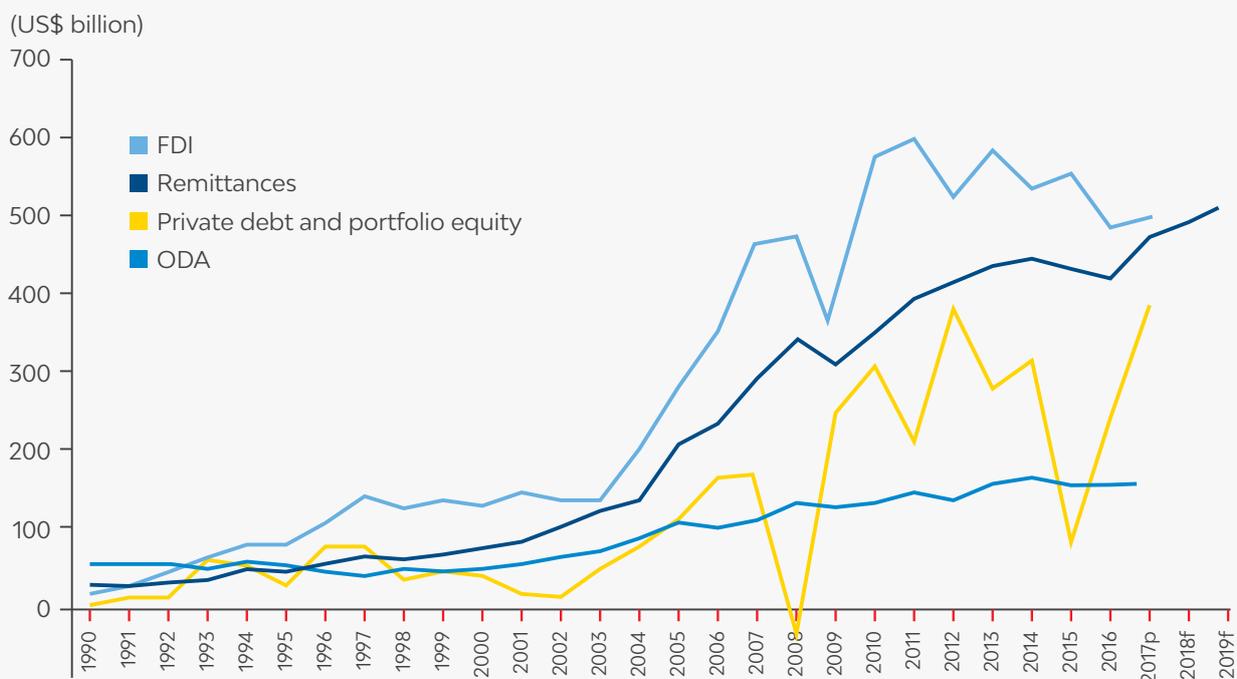
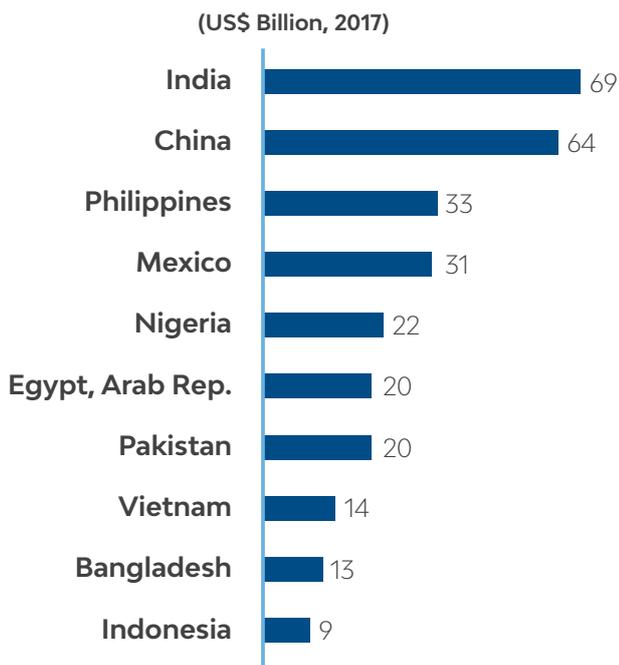


Fig 1: Remittance flow to LMICs – Larger than official development assistances and more stable than private capital flows (Source: **Migration and Development** Brief 29, April 2018)



Remittance Costs

The biggest challenge that the remittance industry faces today is the cost associated with sending remittance, and the speed at which the remittance transfer occurs. According to Remittance Prices Worldwide published by the World Bank, the global average cost of remittance transfer to LMICs is about 7.1%. The cost of sending remittances vary across corridors. It ranges from as high as 16.2% in South Africa to 9.5% in Japan, to as low as 1.7% in Russia. The cost, in fact, tends to increase for lesser value remittance transfers. This is a serious concern considering the impact that remittance transfer has on financial inclusion. The UN has included reduction of remittance transfer costs (to 3% by 2030), as one of the Sustainable Development Goal (SDG) targets.

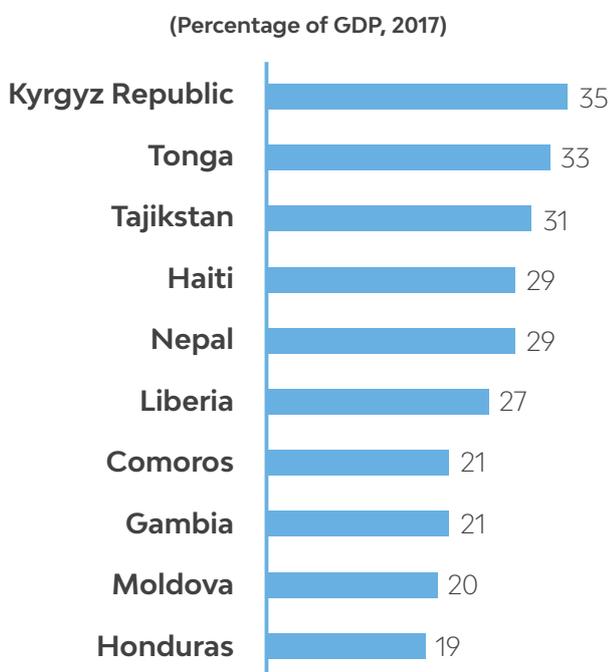


Fig 2: Top remittance receiving nations (Source: **Migration and Development** Brief 29, April 2018)

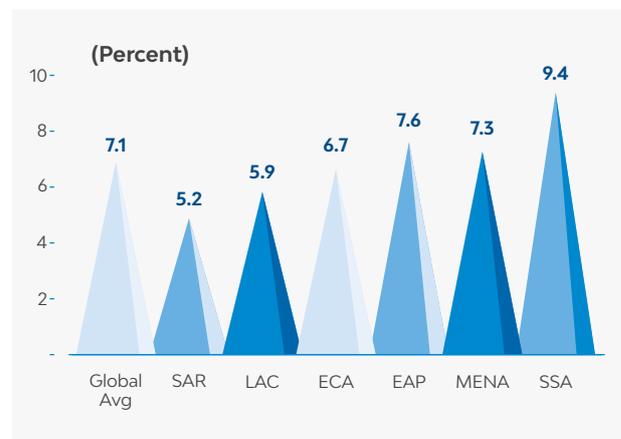


Fig 3: Cost to send \$200 - Comparison (Source: **Migration and Development** Brief 29, April 2018)

(Note: SAR - South Asia, LAC - Latin America and Caribbean, ECA - Europe and Central Asia, EAP - East Asia and Pacific, MENA - Middle East and North Africa, SSA - Sub-Saharan Africa)

Formal means of money transfers are facilitated by Remittance Service Providers (RSPs). The three most popular types of RSPs, which handle the bulk of the remittances are Commercial Banks, MTOs or Money Transfer Organizations (Western Union, MoneyGram, etc.), and Post Offices. Banks are the most expensive of all service providers, with costs averaging 10.4%. Post Offices and MTOs are a relatively cheaper medium, costing 6.6% and 6.2%, respectively.

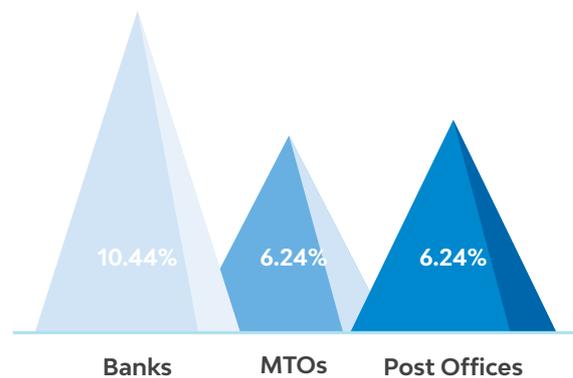


Fig 4: Total average cost by RSP type (Source: **Remittance Price Worldwide** – Issue 24, Dec 2017)

To understand what contributes to the costs associated with remittance transfer, let's look at how a typical cross-border remittance transfer occurs.

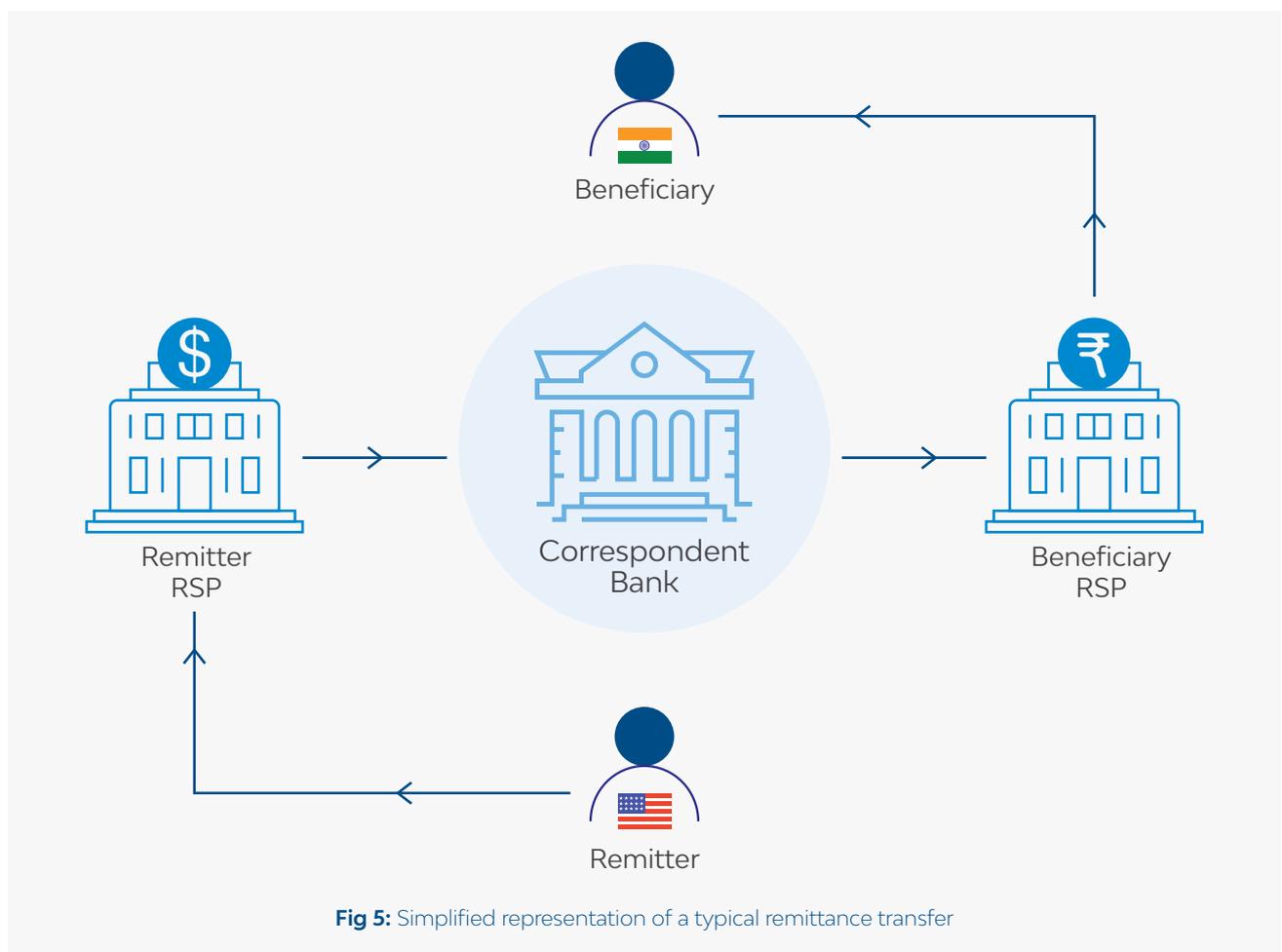


Fig 5: Simplified representation of a typical remittance transfer

The remitter gets in touch with an agent and hands over the cash that he intends to send to his home country. The agent consolidates similar payment requests and transfers the amount to the remitting RSP. The remitting RSP then transfers the funds to the beneficiary RSP. This generally happens through a wire transfer via a SWIFT network and will involve a correspondent bank as an intermediary. The correspondent bank comes into the picture when a global bank with branches in both countries is not engaged in the wire transfer. The correspondent bank helps in foreign exchange and credits the beneficiary RSP with the amount transferred in the local currency. Finally, the beneficiary RSP completes the disbursement, with the beneficiary either collecting the remittance amount in cash or having it deposited into a bank account.

The involvement of multiple intermediaries makes the process of remittance transfer costly and time-consuming. Regulatory requirements, which call for multiple levels of verification, also add to the cost. To facilitate faster transfer of money, MTOs tend to pre-fund their operations, increasing capital costs. All these costs are transferred to the customer in the form of servicing or processing fees. The cost is not just in terms of money, but also in terms of time and lack of transparency. The beneficiary involved could be waiting for days, till the money finally reaches her. To add to the anxiety of the parties involved, there is no clear visibility on where the money is at any given point of time, till the money reaches the hands of the beneficiary.

Blockchain the Redeemer

Blockchain is a Distributed Ledger Technology (DLT), which as the name suggests, offers the capability to maintain a system of records distributed across multiple nodes within a peer-to-peer network. Blockchain uses consensus-based validation where all the nodes in the network collectively agree on the validity of all transactions recorded in the distributed ledger. This design eliminates the need for a central authority or a middleman to validate

transactions. All transactions that get recorded are cryptographically hashed, time-stamped, and maintained as blocks of transactions. Every time a new transaction is validated, it gets appended to the chain of blocks already created. This design ensures that modification of any one transaction is not possible without tampering all the transactions recorded after it, rendering the distributed ledger immutable and, the transactions irreversible.

Technology has been leveraged heavily over the years to bring down the costs and improve efficiency in the remittance industry. But blockchain is expected to create a tectonic shift. Blockchain offers some key advantages that the existing technology platforms don't offer. With a peer-to-peer, consensus-based system, it helps in maximizing disintermediation. The dependency on correspondent banks for cross-border payments can be eliminated. By enabling peer-to-peer transfers, blockchain will help in realizing Straight Through Processing (STP) and real-time settlements. It creates a trust-based system, where RSPs can go beyond their bilateral agreements and engage in much more expansive remittance operations. Blockchain razes the barriers of entry, opening up the remittance industry to more innovative players.

Apart from the much-needed benefits of cost and speed, blockchain promises heightened security for remittance transfers. The transactions made through blockchain would be cryptographically secure and once verified and recorded, they will be immutable. This significantly improves the trust, transparency and visibility in the system. Every transaction made will have a permanent verifiable public record. Blockchain will be key to extend the reach of remittance services to the unbanked and under-banked in a big way, by eliminating the need of a bank account. In an environment where regulatory curbs and "de-risking" practices are threatening access to the global financial system, blockchain-powered, mobile-based payment services will immensely improve the accessibility to cheaper remittance services.

Blockchain Innovators

The potential of blockchain in solving the problems of the remittance industry is being widely recognized and many start-ups across the globe are coming up with innovative solutions.

- **Abra** is a mobile wallet solution that uses Bitcoin to help in peer-to-peer money transfer. Abra supports over 50 fiat coins and 20 cryptocurrencies. It also helps customers connect to tellers who can help with Bitcoin-fiat conversion. Its recent innovation is a multi-signature wallet, which allows Bitcoin value in their wallet to be pegged against fiat currency.
- **Bitspark**, based out of Hong Kong, provides blockchain-based remittance services. In November 2014, it conducted the world's first cash-in, cash-out remittance transaction using Bitcoin. Its services are currently available in seven countries spanning APAC and Africa. Bitspark uses the BitShares blockchain for its money transfer operations.
- **Denarii cash** is a UAE-based start-up providing remittance services for MENA nations. It provides its customers with a mobile wallet and has cashpoints for cryptocurrency-local currency exchange. To ensure frictionless service, end-customers transact only in cash, while the actual money transfer happens using cryptocurrency.
- **Bitpesa**, founded in Kenya in 2013, provides remittance services in and out of Africa. It employs Bitcoins for money transfers and leverages mobile wallets as the interface for transactions. Bitpesa's success and possibilities can probably be best understood by the resistance it is facing from popular mobile payment platforms like Safaricom.
- The Philippines is another big market for remittance transfers and is seeing a lot of blockchain solutions coming up. **Coins.ph**, **Rebit**, and **Bloom Solutions** are blockchain-based solutions targeted at the Philippines market. These solutions provide cryptocurrency-based back-end money transfers. Bloom Solutions was selected for the Google Developers Launchpad program.
- DigitalX's **Airpocket** is an award-winning solution that brought blockchain-based remittance services to South America. DigitalX has partnered with banks, retailers, and telcos across Latin America making mobile-based remittance transfer simple.

Challenges for Blockchain Adoption

Although there is a general consensus that blockchain is the solution to the remittance industry's current ailments, blockchain adoption is still at its infancy. There are still many hurdles to cross before blockchain solutions can become mainstream.

1 Financial laws and regulations pose the biggest challenge. Regulators are skeptical about blockchain's privacy features and its possible exploitation for illegal financial activities like money laundering and terrorism funding. Regulators are relentlessly trying to fortify traditional banking channels with strong KYC and AML rules and anonymous transactions in an unregulated channel are not something that helps their cause.

4 Security of the blockchain network is another major concern. Network security is, of course, a concern even for existing financial networks, with hackers looming around to find any possible vulnerability to exploit. But the emergence of mining pools and cloud mining has raised questions on the immutability of blockchain as well.

2 The second major barrier for adoption is the volatility of mainstream cryptocurrencies. Bitcoin, for example, has seen a huge fluctuation in its value since its inception in 2009. The volatility of the underlying asset used for money transfer has created a perception of risk about blockchain solutions.

5 User-friendliness and the general public perception of blockchain solutions are also worrying factors. The public perception of blockchain is that it is an experimental technology meant for the tech-savvy. The lack of simple and easy-to-use interfaces, which don't require a significant learning curve, is certainly not helping the blockchain solutions in the market to reach critical mass.

3 Being a relatively new technology, blockchain in its current state has its own technical challenges to overcome. Be it issues with scalability or efficiency or lack of standardization, the technology needs to mature before we see more real-life implementations.

Blockchain-led Future

Innovative solutions being designed by blockchain start-ups are proving, beyond doubt, the possibilities that blockchain offers. Banks have also acknowledged its potential and are experimenting with solutions, by partnering with Fintech firms. Blockchain innovators are cognizant of the concerns around the technology and every day, innovations are moving it to a more mature state. Use of pegged cryptocurrencies to fight volatility, Bitcoin's lightning network to enhance scalability and multi-signature to improve security, are some such innovations in the right direction. The proliferation of mobile phones is being leveraged to make more user-friendly, mobile-based blockchain solutions, simplifying the technology for the masses and expanding its reach.

Blockchain's promise of financial inclusion, with a drastic reduction in cost and improvement in speed of remittance transfers, cannot be overlooked. The benefits far exceed the apprehensions. Blockchain is slated to be the future of the remittance industry.

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Ajay is working as a Senior Consultant with LTIMindtree's Automation CoE team, which focuses on identifying areas of automation in service delivery to the clients. With over nine years of experience in IT services, providing business solutions to top Banking & Financial Services companies, Ajay is known as a technology enthusiast, with a keen interest in emerging technologies like Blockchain and Machine Learning.

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