

FINTECH IN A FLASH

**FINANCIAL TECHNOLOGY
MADE EASY**

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FINTECH IN A FLASH

Financial technology made easy

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About the Author



Financial savant, author, and advocate, **Agustín Rubini** has many interests and is devoted to excelling in these fields. With many years of experience as a financial industry strategist, Agustín is passionate about the world of finance and the future of financial services. He spends much of his time speaking and writing about fintech and advising businesses on innovation and digital transformation.

He has a strong background in developing digital strategy, driving innovation in the financial services industry, and is well versed in the disruptive effect of technology on the financial services industry. As a means of helping others understand the complexities of the financial services industry, Agustín wrote and published *Fintech in a Flash*, a comprehensive guide to financial technology. As a resident of London, Agustín's love of the UK led to the release of his first book, a touristic novel about a young Latin American's first trip to London. An advocate of child welfare, arts and culture, and a proponent of education, Agustín combines his love of science and technology, knowledge, and compassion to effect positive change and offer a better understanding of our complex world.



CHAPTER 3

RETHINKING PAYMENTS AND REMITTANCES

Payments and Remittances in a Flash

Fintech has made a strong entrance into the payments arena. Consumers can make the most of innovative methods of sending and receiving money using mobile apps, peer-to-peer payments, and cryptocurrency transfers.

We will look into how migrant workers send money to their families through fund transfers or remittances. In 2011, the amount transferred was at least \$483 billion¹, and this figure is steadily increasing, which represents a great opportunity.

Mobile money transfers are popular in developing countries because citizens often find it easier to send text messages instead of physically going to a particular money transfer operator or branch. Peer-to-peer money transfers allow users to send and receive money through a network not controlled by any central authority. Each transaction occurs in an online marketplace where one person sells a currency and another one buys it. Cryptocurrency is also another innovative way of sending and receiving remittances. It is inexpensive, and senders and recipients maintain their anonymity. However, users have to have a digital wallet before they can initiate transactions.

Other interesting payment trends are social media and nanopayments. Social media allows users to send and receive money through peer-to-peer connections, although this is currently only available for domestic payments. Nanopayments are used for monetising online content through charging small fees.

Traditional Remittances

It is useful to understand how remittances traditionally work to identify the inefficiencies. A typical transaction is done in three steps. First, the customer sends the money through a sending agent via the Internet, phone, or email. This sending agent instructs its operations team to send the remittance to the recipient's country, and the recipient receives the funds from the paying agent. In general, settlements between the sending and paying agents are not done in real-time. The agents settle the transactions periodically and through a commercial bank.

The sending agent charges a fee for the remittance transaction, and the sender also pays for the currency-conversion fee so that the payment of the remittance can be made in the recipient's local currency. Small money transfer operators also require the recipient to pay a fee to receive the remittance to cover unexpected movements in the foreign exchange rate. Remittance agents also earn from interest because they invest the funds overnight before they deliver them to the recipient.

Traditional Delivery Methods

There are three traditional ways to send remittances: through money orders, cheques, and drafts, through wire transfers, and through ACH transfers.

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The safest and most common way of sending remittances internationally is using money orders, cheques, and drafts. International money orders are the most secure and convenient mode. Recipients can go to various locations to cash them or deposit them directly into their bank accounts.

Wire transfers involve financial institutions who agree to process the money through the Society for Worldwide Interbank Financial Telecommunication (SWIFT) messages. The remittance transaction takes place between two financial institutions, so both the sender and the recipient can expect to pay fees.

Money moves from one bank account to another through money transfer operators (MTOs). The MTO gathers the information from the sender, and then triggers the wire transfer message to the receiving financial institution. For the wire transfer process to be successful, the sender must provide the recipient's name, address, account number, and bank information.



Aside from bank-to-bank transactions, wire transfers can also be through a cash wire transfer, a service usually offered by MoneyGram or Western Union. Using this method, the money transfer company uses its own funds for the wire transfer process. An individual goes to one of the company's branches to give the company representative the cash that he wants to send to another person.

Wire transfer fees vary depending on the money transfer service. For a faster service, the money transfer company typically charges a higher fee.

Another way of transferring money is through the Automated Clearing House (ACH), an electronic network for batch processing of transactions by financial institutions. This is an intermediary who receives the payment, clears it, and informs the financial institution.

Banks offer ACH Transfer to their clients, who want to transfer

money anywhere in the world. Unlike the wire transfer, the ACH transfer goes through its own network, which is a financial hub composed of various financial institutions. The National Automated Clearing House Association (NACHA) manages ACH transfers for all financial institutions in the United States of America. The Single Euro Payments Area (SEPA) is NACHA's counterpart in Europe.

In ACH transfers, the sender sends a direct payment through the network. Their bank sends their transaction, together with others, at regular intervals throughout the banking day. Then, the ACH operator sorts the batch and sends the transaction to the receiving financial institution. The recipient's bank receives the funds transferred by the sender. ACH transfers take more time than wire transfers and are less expensive.

Initiating Online Transfers

An online money transfer is any fund transfer that is performed through the Internet and does not require the sender to visit a money transfer operator or bank. Currently, most money transfer operators and banks allow online money transfer services.

This type of fund transfer is safe, convenient, and fast. Many bank customers have online access to their bank accounts so they can easily transfer money to anyone around the world, as long as that recipient has a bank account. The back-end process for the money transfer can be either ACH transfer or a wire transfer.

Independent companies, on the other hand, have websites on which users can create their own account. These users have to provide a debit card, a credit card, or a bank account to initiate a fund transfer. They also need to provide the bank account details of the intended recipient. These companies, such as Xoom, collect the fee from the users' bank accounts.

PayPal revolutionised the remittance process by using an email address as a unique identity. A PayPal user can transfer money by paying into his PayPal account from their credit card or bank

account. Once the money is in the PayPal network, transactions occur instantly between PayPal users. However, the recipient needs to withdraw the money from their PayPal account to their bank account or to a PayPal credit card.

Size of the Remittances Market

In 2015, remittances amounted to \$646 billion. For 2016, the World Bank estimated this amount to be at least \$700 billion. It further stated that remittances are about 300% higher than the official development assistance given to developing countries. Additionally, remittances are worth more than portfolio equity and private debt flows to these nations. In about 14 developing countries, they exceeded the foreign exchange reserves. Remittances are also at least equal to 50% of the reserves in at least 26 developing countries².

Due to consumer demand, start-ups are emerging around the world. The disruption of the banking industry could mean it will face tough times as there is a huge opportunity for these start-ups to absorb the market share once belonging to the top banks and money transfer specialists. Peer-to-peer payments have enabled individuals to send money to their intended recipients in just minutes using cloud technology. According to Forrester Research, this type of payment scheme could generate at least \$17 billion in transaction volumes by 2019.

With advances in technology, the global community expects the process of sending and receiving remittances to become more efficient, safer, and generate a positive impact.

The average cost of sending remittances globally went down to 7.9% from 10% in 2009. This saved migrant workers \$54 billion. Digital payment products can cost as little as 3.4%, and technological innovations in the payment infrastructure and payment instruments improve the safety and efficiency of remittances.

Upcoming Trends in Remittances

The first notable trend relates to infrastructure expansion. Automated Clearing Houses and card payment schemes have established procedures, policies, and standards, so it makes sense to invest in them. They are often reliable and widely used.

The second trend involves combining payment instruments and current infrastructure. Most countries have pre-existing payment systems set up. Using this infrastructure with innovative products and services can prove to be less expensive than completely rethinking the process. Some financial institutions in both sending and receiving countries have created card-based products that allow the families of migrant workers to withdraw remittances at ATMs or use them for payments. The use of the card infrastructure is cheaper, safer, and more efficient than cash. However, some regulators do not allow dual-purpose cards.

A third trend entails combining domestic and international payment mechanisms. In some countries, citizens increasingly prefer to use electronic payments instead of cash. Some even use this type of payment to transfer funds to another person locally. Nonbanks and banks issue electronic money based on arrangements with the country's regulators. Payment service providers and international money transfer operators use the existing electronic payments structure to send the funds to a particular receiver in that country.

A fourth trend is around new players that are making the most of the current payment infrastructure. New companies have started to operate within the remittance market and enhanced the potential of the existing network, as well as creating international links. Some of these companies provide cross-border services that also enable financial institutions to maintain ownership of the consumer base. They offer efficient and transparent cross-border payment products. There are also companies, often banks, which allow interoperability between Automated Clearing

Houses, mobile money, and the Internet. They have created a hub that allows for both domestic and international remittance transfers. Online remittance providers like PayPal allow senders to try various options. Senders can pay using their bank accounts, credit card, or debit card, and they can choose how they want the money delivered to the recipient.

A fifth trend is around non-remittance companies offering remittance services. Retail stores and import businesses can become remittance companies. Some online companies are even offering remittance services to their clients through current payment infrastructures. For example, a business offering online foreign exchange information can offer remittance services. A customer can provide online instructions for their bank account to be debited and the money to be credited to the recipient's bank account.

Innovative Ways of Sending Money

Mobile Money Transfers

Companies now offer money transfers using the mobile phone. The introduction of smartphones allows users to use different online services and apps, even in rural areas. In several countries, it is now possible to send money via text messages. Large banks and money transfer operators offer mobile apps to their clients to make it easier for them to send money.

Mobile apps are a convenient, secure, and fast way to remit money internationally. In 2015, international remittances using mobile technology grew by as much as 52% compared to the previous year. In that same year, US migrant workers sent about \$600 billion to their families overseas.

Cryptocurrency transactions

As digital currencies, Cryptocurrency transactions, such as Bitcoin, do not need to pass through banks. They incur no hefty fees and parties to the transaction also remain anonymous. Digital wallets act as storage for these currencies. They can reside on the user's computer or in a cloud. One problem with this method could be the risk of fluctuations in the exchange rate, as well as the lack of banking protection in the case of problems such as hacking or fraud. However, as the currencies mature, insurance against these problems is emerging.

The main models for these remittances are the pure cryptocurrency model, the cryptocurrency to fiat model, and fiat to fiat model. In the pure cryptocurrency model, the currency is transferred directly from person to person. In cryptocurrency to fiat, a cryptocurrency operator is used to convert into the target currency. This assumes that the originating country has easy access to cryptocurrency. This is typically the case of developed countries, and this is the model likely to have the highest degree of success. In the third model, both sender and receiver use a physical currency, but the remittance operator uses a cryptocurrency for the transfer.

Peer-to-Peer Payments

In traditional foreign exchange trade, a company can sell or buy a particular currency from another person online and earn money from it. In a P2P transaction, a person trades currencies with other persons in a marketplace. The platform offering the service earns a small amount of money from each transaction³.

A peer-to-peer money transfer company offers almost complete transparency. A customer understands the fees they have to pay for each transaction, and, compared to a traditional foreign exchange company, they benefit from a lower exchange rate and a small fixed fee. Registering with a platform is easy, and a user can send any amount of money. Online platforms are secure and easy to use.

However, P2P money transfers also have their disadvantages. Firstly, they are relatively recent, which might make customers feel uneasy. Secondly, some P2P currency exchange companies allow prices to fluctuate unless a user locks the rate. Traditional money exchanges lock the price at the agreement date. Thirdly, some P2P companies also charge fees on money transfers.

Key Players

In this section, we look at interesting companies that are making important progress in this category. Fintech is a very volatile industry, so by the time you read this, these companies may have changed substantially.

TransferWise

Founded in January 2011 by Taavet Hinrikus and Kristo Kaarmann, TransferWise is a peer-to-peer money transfer operator with its headquarters in London. It currently has offices in Estonia, Singapore, Sydney, and New York, among others. With at least one million clients and at least £800 million worth of transfers each month, it supports at least 645 currencies⁴.

TransferWise does away with costly cross-border transfers and currency conversion by rerouting payments. It does not send the money directly from the sender to the recipient but redirects the funds to another recipient of an equal transfer in the opposite direction. The original recipient receives the money from another sender who initiated a transfer of the same amount. TransferWise either charges 0.5% or €2, or the equivalent, depending on which is the larger amount, as a fee.

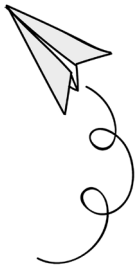
Estonia deserves a special mention. It became the Silicon Valley of the Baltics because, during the Cold War, the Kremlin halted the independence movement in Estonian universities by restricting the teaching of social sciences and philosophy. Students focused on information technology and computers. These people became

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Estonian software developers, who played a central role in the KGB spying efforts and the Soviet space program.

Estonia became independent two years after the fall of the Berlin Wall in 1989. Netscape introduced the Internet browser after three years, and Estonia became an entrepreneurial e-republic. Most of Estonia is decentralised and digital. Estonians rarely visit a government office and have access to broadband Wi-Fi. They have been using mobile phones as identification and voting online since 2007. Estonia was responsible for developing Skype and the P2P music service Kazaa.

TransferWise's Hinrikus and Kaarmann still live in Tallinn, Estonia. Kaarmann developed the Scandinavian and Baltic version of Yahoo Finance. He had a consulting deal with Deloitte in London, where he met Hinrikus, a fellow Estonian. Sending money to their families back home, Kaarmann and Hinrikus realised that transaction fees were costing them a lot of money.



Being software engineers, Hinrikus and Kaarmann thought of a solution. From Hinrikus's Estonian bank account, he would transfer euros to Kaarmann's Estonian bank account. Then, from Kaarmann's British bank account, he would transfer pounds to Hinrikus's Lloyds bank account, saving on international transfer fees. They invited other Estonians to transfer money through their method.

In 2001, Kaarmann and Hinrikus resigned from their jobs to build TransferWise using about \$1.3 million of their own money. The company now transacts at least \$750 million monthly with about one million users in 60 countries. Monthly, it earns roughly \$5 million in transaction fees⁵.

Currently, its competitors are companies like MoneyGram and Western Union. In the long term, it will have to deal with other threats.



Paypal aims to remain at the forefront of international money transfers, so it has followed a policy of acquiring the best companies it can find which offer potential and synergies with its business model.

Popular among millennials, Venmo is a peer-to-peer payment technology that has various uses. Users can pay for items quickly through its app. They can post their transactions in the Venmo app for their friends to see. This feature is primarily social advertising, which means merchants are very excited about it. Venmo charges 2.9% per transaction, and there is a 30 charge for merchants. In the 2nd quarter of 2015, it processed \$1.6 billion, processing \$2.1 billion in the following quarter⁶.

Xoom, acquired in July 2015 for \$890 million, is a leading international remittances provider. Xoom enables its customers in the United States of America to send money to anyone around the world. It prides itself on being able to perform payments at lightning speed and allows customers to reload phones and pay bills in a cost-effective, quick, and secure manner through computers, tablets, and mobile phones.



UK-based WorldRemit is continuously building its business on a global scale. Founded in 2010, it is, at present, worth around \$500 million. It has set up headquarters in the USA, particularly in Denver, to capture the US market, where 10% of all worldwide remittances originate.

WorldRemit charges a lower commission than Western Union. Users from 50 countries can use their mobile phones or computers to transfer money to individuals in 117 countries. They can send money to mobile wallets, cash pick-up points, or bank accounts. WorldRemit is leading its competitors in the area of money transfers to mobile wallets, with 100,000 transfers each month,

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25% of the company's total transactions.



Based in London, Azimo is a mobile money transfer company with more than half a million customers. It is expanding its operation in Europe and targeting migrant workers, who earn less than the average income. Founded in 2012, it can transact in 80 currencies and covers 200 countries. Its target regions are Africa, Latin America, Asia and Eastern Europe. Azimo is integrated with Facebook Messenger and will soon be integrated with Viber.



Based in the UK, Currency Cloud offers cross-border money transfers and is used by payment and money transfer businesses. Its Payment Engine, a cloud-based platform, connected to an API, is used by companies like Xe.com, TransferWise, and Azimo. Currency Cloud boasts at least 500,000 end users and is used by no less than 150 companies like WorldRemit, WeSwap, and MANGOPAY.

Currency Cloud's main competitors are banks, but the platform charges less money for the same money transfer service. On average, Currency Cloud processes \$10 billion worth of payments transactions yearly in 40 currencies in 212 nations. It expects to soon expand into the US market and plans to open a headquarters in New York.



Seattle-based Remitly is a mobile remittance app that allows individuals in the USA to send money to the Philippines and India. It has acquired Talio, a picture-messaging app, and plans to incorporate its features into the Remitly app. Remitly processes

an average of \$1 billion in money transfers each year. Focusing on its customers, its mobile-first service continues to disrupt the remittance market with its low fees.



Founded in 2012, Ripple is a US based company that offers an Internet protocol to connect the disparate financial systems in different countries, offering secure fund transfers. It has received more than \$90m in funding and supports two solutions, one for retail remittances and one for corporate disbursements.

Ripple's distributed financial technology enables banks to send real-time international payments across networks, with no settlement risk, and eliminating the need to have separate accounts in different countries.

Ripple enables banks to open new revenue opportunities, lower processing costs, and deliver better overall customer experiences. 15 of the top 50 banks work with Ripple, in nine countries.



One of the early shockers of 2017 was the announcement that Ant Financial, Alibaba's financial services arm, dubbed as the PayPal of China, had acquired Moneygram. Moneygram is the second largest money transfer operator, just behind Western Union. This means Ant Financial can offer services to more than 200 countries. It proves that having a robust agent network is still seen as important. Many people still like to deal in cash, and Ant Financial can capitalise on the network to offer other products through the AliPay brand, such as personal consumer loans and small business finance.

Social Media-based Remittances

Social media is a great way to connect with friends and share stories and pictures with them. With the advent of financial technology, it is also possible to send money through them to anyone in the world.

A remittance fintech company can take advantage of social media to make money transfers cheaper and faster globally. Usually, it has an app which users can use to send remittances through social networking sites like WeChat, Twitter, and Facebook. At present, Facebook does not charge a fee for peer-to-peer payments through its Messenger app. On the other hand, WeChat, the popular Chinese social media site, charges 0.1% for transfers. Both Facebook and WeChat allow payments between users within the same country, though, in February 2017, Transferwise introduced a chatbot to Facebook that allows customers to do international payments.⁷

In most cases, the fintech company will also charge a fee for the processing of the transaction. The recipient can collect the money from cash pick-up points, or it can be sent to their bank account.

Key Players

WhatsApp

WhatsApp is a cross-platform, proprietary, and encrypted instant messaging system for smartphones. Based in California, Facebook acquired the company in February 2014 for about \$19.3 billion. WhatsApp had at least one billion users by February 2016, making it the top messaging application at that time⁸.

WhatsApp has huge potential for integrating payments. Axis Bank, in collaboration with WhatsApp, allows users to request and send money, and the transfer is instant. The sender has to enter

a sender code and amount to be sent to the intended recipient. After pressing the “Send” button, the recipient will receive a message informing them. They have 15 days to move the money to their bank account. If they fail to transfer the funds, the money will be returned to the sender’s account⁹.

Facebook

In March 2015, Facebook announced that it was offering users the option to send mobile payments through its Messenger app. Users can use a debit card to send money to other Facebook users without charge. They need to create a message to the recipient then tap the “\$” icon. Recipients have to open the message and enter their bank details. The money transfer will happen immediately; however, it may take up to three banking days for the funds to be available in the recipient’s bank¹⁰.

In October 2016, the Central Bank of Ireland gave Facebook a license to operate P2P payments and charitable donations through its Messenger service all across Europe. With its license, Facebook now allows its users in Europe to donate to registered charities in the European Economic Area and carry out P2P payments¹¹.

SnapChat

SnapChat collaborated with Square to launch Snapcash, a money transfer service that allows individuals to send and receive money through the app. Square has Square Cash, a remittance app that lets people send and receive cash through email. Snapcash, on the other hand, allows Snapchat users to enter an amount through the messaging app and transfer the amount to a recipient’s pre-registered account. Snapchat does not store user’s financial data, but Square stores all bank details and debit and credit card information, as well as transactions¹².

WeChat

Developed by Tencent, WeChat is China's cross-platform instant messaging platform released in January 2011. As of May 2016, it has at least 700 million active users. It is available for iPhone, Windows Phone, Android, BlackBerry, and Symbian phones¹³.

WeChat supports money transfer and payment through peer-to-peer electronic bill payment and transfer. Users must have their WeChat Payment account to use this feature. They can use a debit card to add money to their WeChat account. Those users with credit cards can only use them when paying merchants.

Most retailers in China, including Taiwan, Macau, and Hong Kong, accept WeChat Payment. In 2014, WeChat Payment introduced the "Electronic Red Envelope" instead of the traditional red envelope given to friends and relatives as a form of greeting them on holidays.

Viber

Developed by Israel-based Viber Media, Viber is a voice-over IP and cross-platform instant messaging app that also allows users to exchange audio and video messages, and images. In February 2016, it collaborated with Western Union to allow users to send money to other users anywhere in the world¹⁴.

Using the WU Connect platform, Viber focuses on sending money, integrating solutions that use foreign exchange conversion, robust technology, data management, and compliance, regulatory, and anti-money laundering infrastructure.

Nanopayments

For the film and music industries, it was a challenge to monetise something that people can get free of charge. Apps created for Facebook and other social media sites also had the same problem.

Today, there are strategies that can get people to pay a small amount for these services.

Nanopayments have been in existence in Asia for many years now. In 2007, Tencent in China brought in \$523 million in sales and \$224 million operating profits through nanopayments. In this case, almost 60% of the earnings came from digital goods and games, while 13% came from advertisements¹⁵.

Apple's App Store was successful because of people who pay small amounts of money for virtual goods. Users are willing to pay from \$0.99 to \$4.99 for various apps that they can download from the Store. Social networks want to replicate this success, so there is a need to have a reliable, stable, and easy-to-use payment system.

Most users are young, so they do not have access to credit cards. In China, children can add money to their Tencent accounts by purchasing "QQ coins" from physical retailers or charging it to their phone bill. Similarly, Korea's Cyworld and Japan's Mixi use the same system.

Znak's Greg Golebiewski devised a way for ads and nanopayments to work together. Znak Inc. is a Delaware-based company offering server-based and software-as-a-service solutions to monetise and curate premium content accurately. According to Golebiewski, users can earn virtual currency by completing surveys or clicking on infomercials. They can also buy virtual currency using real cash.

X Factor CEO Tony Cohen believes that charging a user £0.05, for example, to watch an old episode, can help increase demand. Users also avoid illegal file-sharing sites if they can watch old episodes cheaply. According to OneTouch marketing manager Eli Gurock, 90% of people worldwide do not have access to credit cards, and many credit card users do not want to use them online. Nanopayments can bridge that wide gap and address the problems web merchants have with capturing more customers.

The Future in a Flash

In the globalised world we live in, we can expect remittances to grow continually. We can also expect migrants to become more aware of cheap ways to send money home, and assume that the level of trust in these services will increase. Mobile wallets are also likely to become an important tool for performing these transactions, as more people gain access to smartphones in the developing world, especially in Africa and Asia. Finally, we can expect full integration to social networks by 2020.

