



# Introduction to FinTech

## Report

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UoG FinTech Society

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# Welcome Message

Welcome to the first published Report of the University of Glasgow FinTech Society with title "Introduction to FinTech". In this report, we provide an entry-level and easy-to-understand introduction to FinTech, what it stands for and what it means.

## About the UoG FinTech society

Founded in summer 2017, we are the first student-led FinTech Society in Scotland. We bring together University of Glasgow students of any degree who are interested in technological innovations that are likely to disrupt the financial services sector. We recognise the need for developing FinTech awareness among students before their graduation as a number of surveys indicate that FinTech and FinTech technologies will play a key role in a number of industries in very near future. We also aim to give members opportunities to develop useful employability skills.

We believe we can achieve our goals by running a series of workshops throughout the academic year, which are characterised by students' cross-faculty collaboration, peer learning and engagement with industry professionals.



We hope this material will be a useful stepping stone into the FinTech topic for anyone interested in learning about FinTech.

## About the "Introduction to FinTech" report

This report and presentation slides accompanying this report were created by members of the UoG FinTech Society, namely Jan Jindra, Romi Madan and Nicholas Goetze.

This report aims to introduce FinTech to society members, students and the wider public in an easy and clear manner. Firstly, we define what FinTech stands for, introduce the history of FinTech and application of technology into financial services in general and provide examples of disruptive innovations in several industries. Secondly, we describe characteristic features of FinTech companies and provide a number of examples of such businesses. We also briefly touch on the topic of cryptocurrencies. Thirdly, we demonstrate the growth of FinTech using several measures - from the perspective of both public and business investors. Finally, we will consider the future of FinTech and point out why Fintech matters.

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# 1. What is FinTech?

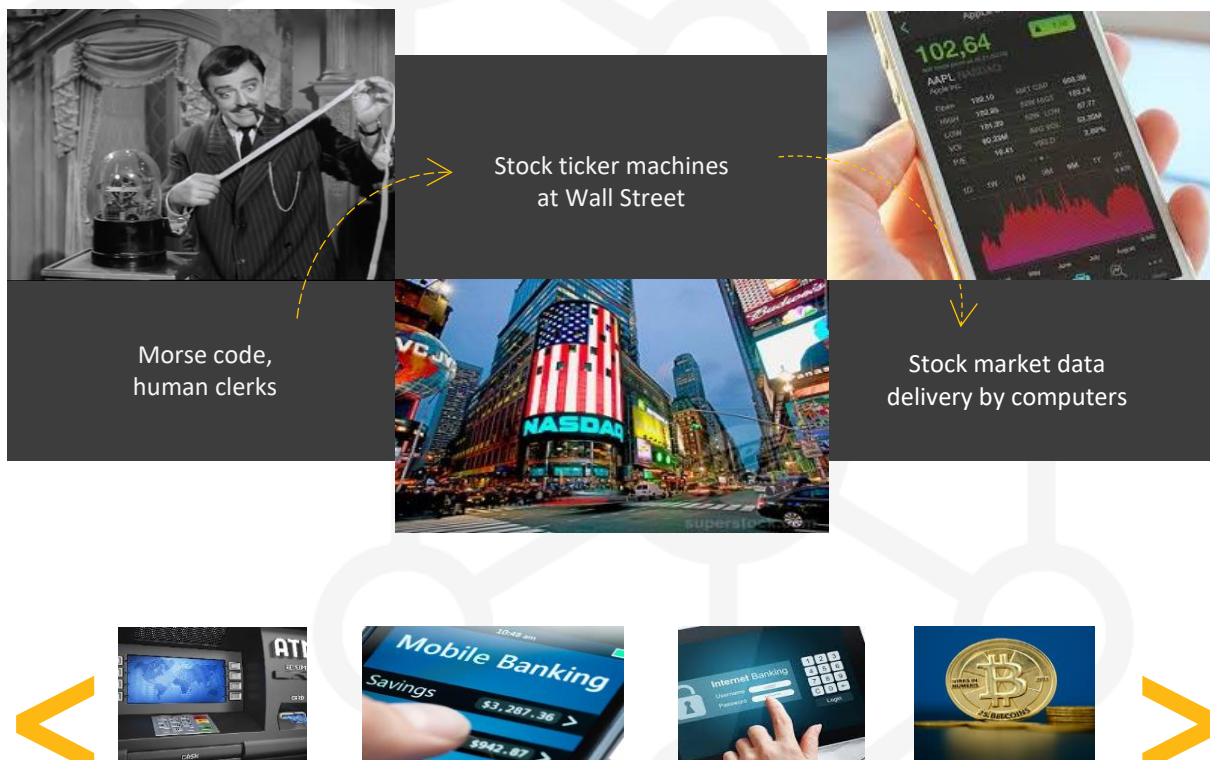
## Definition

FinTech stands for Financial Technologies, and in its broadest definition, that's exactly what it is: technologies used and applied in the financial services sector.

FinTech is a movement, a culture. Garfinkel and Nicolacakis, from PwC's US FinTech team point out that "FinTech isn't static. We see it as the evolving intersection of financial services and technology." To put it simply, FinTech is to leverage on technology to deliver improved financial services. It is an innovative revolution that is growing at exponential rates.

## A brief journey through history

Although the term itself may have only been coined in the late 90s, using technology in finance has been around since the 19th century. Morse code and human clerks were used to deliver quotations, but were replaced by the installation of stock ticker machines at Wall Street and by the mid-20th century, computers introduced new stock market data delivery and processing. The New York Times published a timeline on the evolution of FinTech dating back to 1865 and covers credit cards, online banking and cryptocurrencies.



## Disruptive innovation across industries

In recent years, we've seen a number of industries being disrupted by technological innovations. For example, Uber managed to dramatically disrupt the profitable operations of the transport industry through innovative technology. Uber enables peer to peer transactions for taxi services through digital technologies, namely installing the Uber app, thus cutting out the middle man or centrally planned corporation. The success of uberization can be seen in the vast growth of other shared economy, or access economy, (direct peer to peer transactions) disrupters such as Airbnb, Etsy, and Amazon.

These companies simplify services by providing easier consumer interface as they are adept at taking advantage of new technologies to lower costs and provide consumers and enterprises with superior services. Uber, the world's leading taxi company, has no vehicles and Airbnb owns no real estate. By means of technology, both companies have created transparent new marketplaces, enabling them to reach millions of interested people who wish to carry out direct transactions. This has radically upset existing companies meeting consumer needs.



## Are financial services next in turn?

Fintech now aims to apply this shared economy learning and technological innovations in the financial services sector. Fintech companies are businesses that exploit the new innovations to compete in the marketplace of traditional financial institutions and intermediaries in the delivery of financial services.

The 'Uberisation' of financial services has already begun and is reshaping the financial industry as we know it. Citigroup predicted the loss of roughly 1.7m jobs as banks digitise operations over the next decade. Over 564m dollars were invested in the development of British FinTech companies in the first half of 2017, over a third more than the same period last year. FinTech companies work across a number of fields within finance, e.g. stock-trading, payments (by digital currencies), money transfer, wealth management services or peer-to-peer lending to name some.



## 2. FinTech Companies

### Key features

FinTech companies are “businesses who are using technology to operate outside of traditional financial services business models to change how financial services are offered. Fintech also includes firms that use technology to improve the competitive advantage of traditional financial services firms” ~ KPMG Pulse of FinTech Report



### Etoro

A FinTech company Etoro combines social networking with an investment platform so providing their 4.5m users with a global market to trade and invest in a wide range of assets including currencies, cryptocurrencies, commodities like gold and silver and indices. This open network allows anyone to join and share, learn, copy and interact for better trading strategies.

### TransferWise

The company TransferWise has improved on the speed and efficiency of cross-border cash transactions through using an innovative network of bank accounts and a user-friendly web interface. In doing so they provide a cheaper service than banks with their high fees since with TransferWise the money technically never crosses any borders.



# TransferWise



### Nutmeg

Innovators such as Nutmeg are using their technical skills to automate wealth management services covering asset allocation, investment advice and tax minimisation strategies. Such services can be offered to anyone digitally, as opposed to just the elite, at lower costs and without the need of thousands of pounds in investible assets usually required.

## ZOPA

Finally, **Zopa** is the pioneer of peer-to-peer lending that matches savers with individuals who want to borrow. Banks make lending decisions based on credit scores but as people become more interconnected through technology, innovators have found new ways to analyse data more strategically to service financial decision-making, such as analysing social networking patterns to provide additional information on borrowers' credit worthiness and risk, as well as consumer tastes.



## Cryptocurrencies

**Cryptocurrencies**, such as Bitcoin, Litecoin and Scotcoin, are disrupting the traditional banking world. A number of merchants now accept Bitcoin, such as Microsoft, Subway and Virgin Galactic, and its popularity is growing daily. By removing the middle man (i.e. a bank), cryptocurrencies enhance efficiency of transactions and enable intermediate fees, that have been charged by banks for decades, to be bypassed.



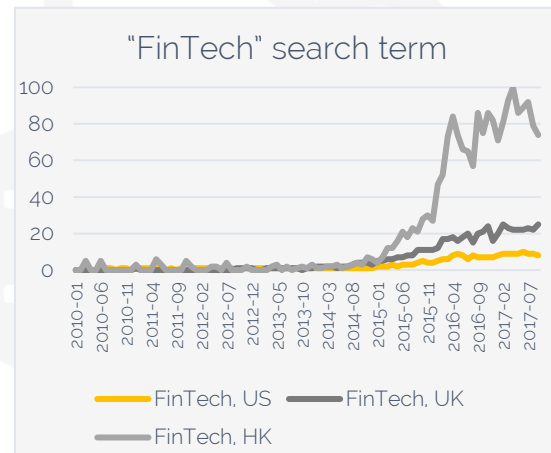
# 3. The growth of FinTech

## Introduction

In the next section of this report, we want to provide an evidence for the strong rise of FinTech and the increased attention to FinTech topics not only among big banks, in media and academia, but also among the public. The aim of the following section is twofold. First, we want to display the growth of FinTech in several measurable ways. Secondly, we want to show why FinTech matters and why it is important to start gaining and developing awareness of FinTech.

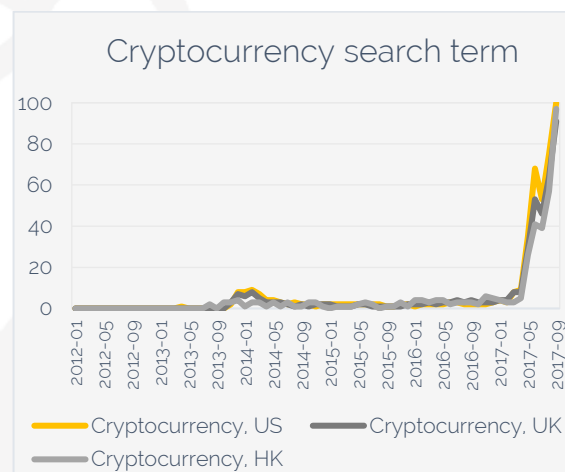
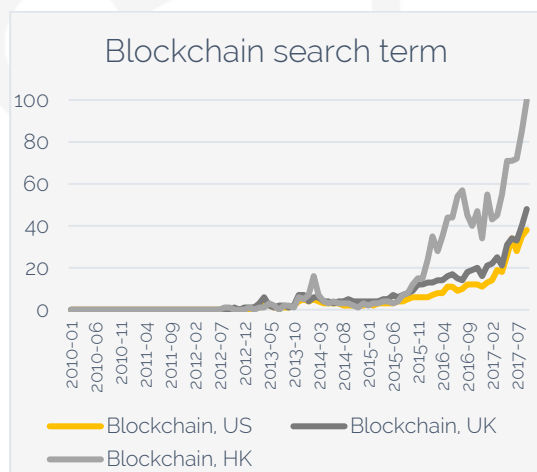
## Search Interest in FinTech

The analytics website [Google Trends](https://www.google.com/trends/) provides a graphical representation of keywords searched on Google over time. It reflects the interest in FinTech among the public in knowing what FinTech stands for and what it means. The graph of the "FinTech" keyword search interest shows an increasing interest among the public in knowing what FinTech means since 2015. The interest in this keyword has increased significantly especially during 2016 and 2017. It is expected that the interest will keep increasing due to ongoing developments in technological innovations.



The search term "**blockchain**", which refers to the distributed ledger technologies – one of the main innovations in the FinTech area, shows a similar pattern to the key word "FinTech". In all three regions considered in the graph below, the search interest doubled over the last year.

The search term "**cryptocurrency**", that includes all digital currencies such as Bitcoin or Ethereum, has not appeared in Google search much until spring of 2017. Later this year, the searches for "cryptocurrency" shot up sharply as it is evident from the graph.



All these graphs clearly show that FinTech is not something that only a few IT geeks talk about, but it is indeed something that even the wider public starts paying attention to.



## Investments in FinTech

According to the [Quarterly Report by KPMG](#), \$8.4B was invested globally in FinTech companies in the second quarter of 2017 across 293 deals.

According to the report, corporate investors were the main drivers of fintech investment. This shows that banks, insurance companies and other financial institutions

recognize the need to be innovative and to make investments accordingly. Businesses were not only engaged in the direct venture capital investments, but also started looking towards building partnerships and alliances with FinTech companies in order to achieve their objectives.

When looking at the investment numbers over time, specifically between 2010 and 2017, we can see a big spike in FinTech investment at the end of Q1 2016, of \$25.5b. The two biggest fintech M&As were between Sungard Data Systems & Fidelity

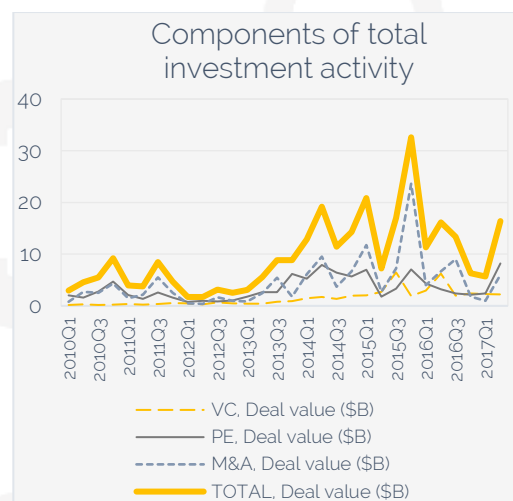
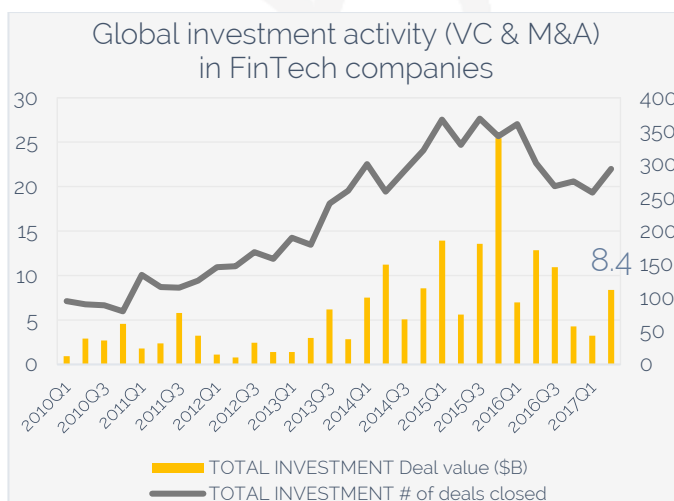
National Information services (\$9.1b) and between Interactive Data Corporation & Intercontinental Exchange (\$7.8b). The slowdown in 2016 and 2017 can be explained by the

Brexit vote, the US presidential election, the slowdown in China and significant fluctuations in the exchange rates globally.

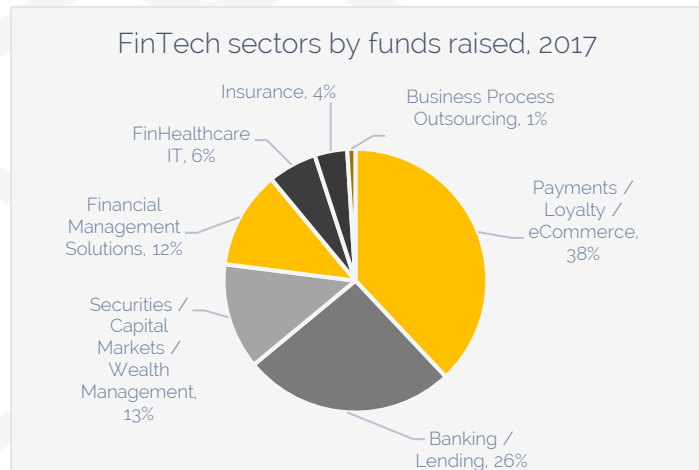
The following graph breaks down the individual components of FinTech investments: (1) VC, venture capital funding, (2) PE, private equity investments, and (3) M&A in FinTech. Private equity firms mostly buy mature companies that are already established but might be deteriorating, and they streamline operations to increase revenues. Venture capital firms, on the other hand, mostly invest in start-ups with high growth potential. The M&As are driving the FinTech investments.

**\$8.4B**

invested in FinTech  
in Q2 2017



In terms of FinTech sectors, "Payments/Loyalty/E-Commerce" companies have attracted the highest financing from investors, accounting for almost 40% of total funds raised by FinTech companies in 2016. Banking & Lending FinTech companies are on the second place, but regulatory technology (RegTech) and insurance technology (InsurTech) are quickly gaining attention of investors too. In absolute terms (in 2016):



- \* Payments/Loyalty/E-Commerce companies: **\$13.5 billion** raised in financing
- \* Banking/Lending companies: **\$9.3 billion**
- \* Securities/Cap Markets/Wealth Management companies: **\$4.7 billion.**

## 4. Looking to the future

The recent developments in technological innovations, interest in FinTech by both the public and businesses and significant investments in FinTech clearly demonstrate that FinTech is not just a short-lived phenomenon. Instead, as a student society, we believe that we are just at the beginning of a significant technological change in the financial services industry – and not only the financial services industry. This gives us another reason for setting up this society and for developing awareness of FinTech among ourselves.

### FinTech & University education

**University of Strathclyde Launches FinTech Degree Course**

FinTech is quickly becoming a popular trend among financial experts. Its appealing nature and the fact that it is a cross-disciplinary field, combining finance, technology, and business, has led to its rapid growth. The University of Strathclyde has launched the first FinTech degree in the United Kingdom.

**Scotland Launches Its First FinTech Degree**

Students following the BSc in FinTech will learn more about the skills needed to succeed in the financial services industry. The course will cover a range of topics, including financial technology, digital transformation, and the role of FinTech in the financial services industry. The course will run for one full year.

**University of Glasgow plans to introduce a FinTech elective class & MSc in FinTech Management from 2018/2019.**

**University of Nicosia**

- 1st University to Offer a Cryptocurrency Course
- #1 in the World in Blockchain Education
- 1st University to Offer a Digital Currency Degree
- 1st to Write Academic Certificate to the Blockchain
- 1st University to Accept Bitcoin for Tuition Payments
- 1st to Graduate Students from an Academic Program

**Join 5,000+ Students Today**

The University of Nicosia offers the first Master of Science degree in Digital Currency, available worldwide through an online format.

The importance of FinTech knowledge also demonstrates the fact that several universities around the world are introducing FinTech-related lectures and degrees. For example, the University of Nicosia in Cyprus offers the first Master of Science degree in Digital Currency which is available worldwide through an online format. Strathclyde University in Glasgow launches a Master's degree in Financial Technology this year and the University of Glasgow is also already creating a concept for MSc in FinTech Management.

## FinTech around the world

FinTech is growing all over the world, it is not limited to only a few super-nations in the world, such as the US. There are numerous FinTech initiatives in emerging economies, in Asia as well as in European countries that you wouldn't guess.



In Brazil, [Google has just launched Campus São Paulo](#), a place where FinTech founders from all over Latin America connect, learn and develop start-ups that want to change the world. In Brazil, FinTech creates solutions, which are more specific to the needs of local customers, and end up entering markets that are quite different from those in London.

For example, [Easycredito](#) focuses on serving a market that has great difficulties in securing credit. Besides, interest rates in Brazil are high and banks require a lot to lend. Another example is [Moneto](#). It is an online payment management platform aimed at Individual Micro Entrepreneurs (MEIs). They make up an important part of the economy, but financial services with a specific technology for this type of customer were still lacking.

Estonia [now proposes estcoin](#), the country's very own government backed digital currency, which would be issued via an initial coin offering (ICO). The country is now

investigating and considering what the issuance of "estcoin" would look like. Estonia has already introduced an innovative e-residency programme, which uses a digital identity scheme that is not tied to location. This allows anyone to apply to become a digital resident for around £100 and they can even set up a business in Estonia due to their e-residency status.

FinTech in **Japan** is hot too. Bitcoin is surging in Japan in regards to popularity and trade volume, since the country legitimised the digital currency as a legal form of payment this past April. Now one of Japan's largest discount airline providers has announced it will be the first Japanese service to accept Bitcoin for airline tickets.

### FinTech matters

In the recent [survey reported by PWC](#), financial institutions clearly indicated that they are going to increasingly engage in FinTech. Thus, a labour force able to understand and manage the FinTech revolution will be sought after.

Over 80%

of financial institutions believe business is at risk to innovators.

56%

have put disruption at the heart of their strategy.

82%

of financial institutions expect to **increase FinTech partnerships** in the next 3-5 years.

77%

expect to **adopt blockchain** as part of their system or process by 2020.

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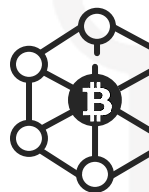
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