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# Lex:lead Group annual scholarship competition **2022**

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## 2022

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# An introduction from the Lex:lead President

Having presented our first award in 2010, 14 more awards this year saw Lex:lead reach over 130 winners as we continue to recognise more and more students. Conducting an essay competition each year on topics of law and development open to the world's least developed countries, we have been generously supported throughout by leading law firms and foundations including the International Bar Association (IBA) Foundation, which was the source of our first and some of our most generous grants over the years.

Through its panel of judges, Lex:lead recognised the top essays this year on the question: 'How can developments in Fintech impact upon economic development and how should it be regulated?' which you can read here. Each year our essay questions juxtapose an area of law with the effect it can have on economic development and the reduction of poverty, challenging our writers to think beyond the texts they learn in their academic environments and apply the area to their lived experiences. The results are often thought-provoking insights into the nature of law and how law affects all of our lives, particularly those in developing countries – none more so than the ground-breaking area of Fintech and its much-touted potential impact on economic development, but also

its risks. Of particular note, our 'President's Pick' this year is the essay of Maame Aba Asiedu (University of Ghana, Ghana) for its balance and insights in addressing the issue posed. It and other essays included here are well worth the read.

Lex:lead has recognised contributions made to it many times with honorary awards, and this year featured two in memory of long-standing contributors to Lex:lead who had recently passed away. One award, made in honour of dedicated Lex:lead judge Dr Violet Odala Phiri (Malawi), fittingly went to Uchizi Carien Manda from her country. The other award was made in honour of Leigh Middleditch Jr who, as a trustee of the Claude Moore Charitable Foundation, supported Lex:lead with sponsorships each year for nearly a decade. This award was made to Mukeya Chirwa (Malawi). We were glad to recognise the contributions of both Dr Odala and Leigh Middleditch by presenting an award in each of their names, and we know the students were also honoured by the association.

Happy reading.

Anne Bodley  
President/Founder, Lex:lead

# How can developments in Fintech impact upon economic development and how can it be regulated?

**Uchizi Carien Manda**

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Award made in honour  
of Dr Violet Odala Phiri

## Introduction

The way we receive, invest, or send money through financial institutions in the modern world has been (and continues to be) significantly affected by Fintech. This essay discusses how developments in Fintech can affect economic development and how Fintech can be regulated. To do so, the essay begins by providing a brief definition of Fintech. It then highlights two key positive and two key negative ways in which developments in Fintech can affect economic development. Finally, the paper recommends three main ways in which Fintech can be regulated.

## Defining Fintech

Although 'Fintech' is a portmanteau coined from a simple combination of the words 'financial' and 'technology', defining the term is not a straightforward exercise.<sup>1</sup> To illustrate this point, defining Fintech formed the basis of a dedicated 2016 study, which attempted to draw together a definition based on a review of more than 200 scholarly articles referencing the term over a 40-year period.<sup>2</sup> The paper revealed a lack of common understanding of this term even at the most basic conceptual level with sources referring variably to Fintech as a sector, an industry, a technology, a business, or a set of activities.<sup>3</sup>

For the purposes of this discussion, Fintech refers to the use of technology in providing financial services that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of those financial services.<sup>4</sup> The term is also increasingly used to describe technologies that are challenging traditional financial services, such as mobile payments, (domestic and cross-border) money transfers, loans, fundraising, and asset management.<sup>5</sup>

## Fintech's impact on economic development

Economic development can be defined as activities that increase the capacity of individuals, firms, or communities to realise their full potential and contribute to societal advancement through the production of goods and services.<sup>6</sup> In the absence of economic development, economic growth is limited. Sustained innovation is a key way in which the ultimate goals of economic development (greater prosperity and a higher quality of life) can be realised.<sup>7</sup>

Fintech's inventive nature and its growth can positively impact economic development by leading to greater financial inclusion and improved efficiency in financial sectors. On the other hand, as Fintech expands and evolves, it can be abused through cybercrime and it can affect the economic development of people who cannot fully access and use Fintech products and services due to illiteracy. A discussion of both sides of this impact follows below.

### *Positive impacts of Fintech*

#### (i) FINANCIAL INCLUSION

Financial inclusion can be defined as the delivery of banking services at an affordable cost to disadvantaged and low-income groups.<sup>8</sup> Through innovative financial services and products, Fintech has led to penetration and access to finance in areas that traditional banking has not been able to reach, leading to greater financial inclusion. An excellent example of how Fintech has disrupted the financial sector is M-Pesa, an e-payment system that operates in Kenya, Tanzania, and other countries. M-Pesa is one of Fintech's biggest success stories and since its inception a decade ago, it has increased financial access for several people previously

without access to accounts by effectively transforming mobile phones into payment accounts.<sup>9</sup>

Fintech has the potential to have a positive impact on economic development at local, national, and global scales with financial inclusion a key enabler of the Sustainable Development Goals.<sup>10</sup> For instance, concerning Sustainable Development Goal 1 (No Poverty), digital financial services can give low-income households access to tools that are both affordable and convenient, allowing them to save and increase their savings, deal with unexpected economic shocks, access social benefits more cheaply, and invest in economic opportunities to lift them out of poverty.<sup>11</sup> In a developing country like Malawi which has an economy driven largely by agriculture, Fintech innovators can ride the surge in mobile connectivity taking place by coming up with services and products to assist farmers in investing, saving, and making and receiving payments.<sup>12</sup> A growing number of African Agri-tech startups, such as Malawi-based Mlimi Pay are already attempting to provide small-scale farmers with digital access to tools to help expand their economic opportunities.<sup>13</sup>

Financial inclusion brought about by developments in Fintech is also providing and can continue to offer new opportunities to transform the lives of marginalised populations, particularly women, youth, migrants, refugees/forcibly displaced persons, (micro- and) small and medium-sized enterprises (SMEs), people with disabilities, and people living in rural areas.<sup>14</sup> Furthermore, some Fintech technologies have the capacity to unlock the potential of digital innovation in access and use in other industries such as energy, agriculture, health, education, mobility, and tourism – areas that frequently ride the rails of digital finance.<sup>15</sup>

#### (ii) IMPROVED EFFICIENCY AND CUSTOMER EXPERIENCE

Post-crisis reforms following the 2007/2008 global financial crisis saw stricter regulatory requirements for traditional banks, opening up a new market for smaller players that looked to unbundle various aspects of banking and to innovate using digital data and mobile technologies to provide customers with a better overall experience.<sup>16</sup> Fintech companies have the potential to significantly affect the financial sector landscape by offering innovative products and services that analyse customer data and address user needs for higher trust,

speed, lower cost, and greater security.<sup>17</sup>

Fintech innovations are also changing customer behaviours and raising their service expectations. Today, nobody looks forward to making a long commute to a bank branch only to wait in a queue. The Covid-19 pandemic notably accelerated the adoption of Fintech in different parts of the world – digital transactions are no longer a luxury of convenience; they have become a necessity.

Furthermore, Fintech can benefit businesses by improving payment systems, customer relationship management, invoicing and collection. From this, it can help create more economic opportunities, increase economic activity, and generate economic growth.<sup>18</sup> For example, the M-Pesa platform has had a significant impact on Kenya's overall economy. The platform's transaction volume is equivalent to more than 40 per cent of the country's GDP.<sup>19</sup> The Kenyan Budget Policy Statement for 2017 acknowledged that if mobile money payment channels were to be disrupted, the impact would be substantial.<sup>20</sup>

#### *Negative impacts of Fintech*

##### (i) CYBERCRIME RISKS

Cybercrime, including scams and outright theft, are not only a financial loss and a reputational risk for financial institutions but cyber-breaches can also affect the operations of financial institutions and cost Fintech firms customers, reputation, revenue, brand, equity value, and higher operational costs.<sup>21</sup> Cybercrime can also negatively affect the financial performance of Fintech firms as well as partner firms, leading to further direct and obstructive consequences tied to economic development.<sup>22</sup>

##### (ii) RISKS AND INEQUALITIES FROM ILLITERACY

Developing countries continue to have higher rates of illiteracy. Large groups of illiterate people may, therefore, not be able to benefit fully from digital finance and developments in Fintech with women, in particular, being disproportionately affected. This problem is further exacerbated by other factors such as language barriers. The majority of mobile money systems are simply not designed for people who cannot read, and their use of the system exposes them to a higher risk of fraud, exorbitant fees, and only limited use of the functionality of Fintech services or products.<sup>23</sup>

## Regulation of Fintech

Fintech is part of the financial services sector which has traditionally attracted significant regulatory attention and seen extensive regulatory oversight. Below are three ways in which Fintech can be regulated: regulation by law, regulatory sandboxes, and regulatory frameworks developed through research.

### *Regulation by law*

Financial innovation is a multi-faceted notion; therefore, to keep up with the fast-paced developments in the financial services sector brought about by Fintech, regulators should develop new (and modify existing) regulatory approaches. Defining and understanding what Fintech is and which parts should be regulated is essential in adequately and appropriately formulating effective regulatory measures. Legal definitions may vary across regions and jurisdictions for reasons including varying levels of development in Fintech and pre-existing laws. This may, therefore, call for the passing of new laws or law reform initiatives.

Excessive regulation can, however, undermine the ability of Fintech companies to innovate and compete in the market. For example, despite being an IT powerhouse, South Korea's domestic Fintech sector has grown slowly mainly because of pre-regulation by law.<sup>24</sup> Regulations have made it difficult for South Korean Fintech firms to continue operating. As a result, tests may be conducted outside of regulations for a limited time.<sup>25</sup> This is where regulatory sandboxes can come into play.

### *Regulatory sandboxes*

Following the 2008 global financial crisis, regulators began attempting to balance the goals of innovation and growth with those of financial stability and consumer protection. As a result, an increasing number of experimentation-based approaches have been developed.<sup>26</sup> An example of such an approach is a regulatory sandbox. A regulatory sandbox is a 'safe space' in which businesses test new products, services, business models, and delivery mechanisms without facing the normal regulatory consequences of doing so.<sup>27</sup> Participants in regulatory sandboxes test their services or products over time, outside the scope of regulation, to determine

whether their solutions have a positive impact on customers and markets.<sup>28</sup> At the same time, regulators have the opportunity to monitor the impact of new solutions and thus determine whether the services or products violate regulations.<sup>29</sup> Even so, regulatory sandboxes should not be taken as a free pass for Fintech services; formal licensing is still required and should be carried out.

### *Regulatory frameworks developed through research*

Additionally, more empirical research should continue to be conducted at national and regional levels as areas and countries face unique problems from their differing levels of economic development. With ongoing developments, periodical research should inform the formation and modification of regulatory approaches. For instance, a 2021 study on Fintech regulation in the sub-Saharan African region concluded that the regulatory approach to Fintech in the area should consist of sector-specific Fintech regulation, cross-cutting regulatory frameworks, and regulatory initiatives.<sup>30</sup> Some of the challenges of Fintech regulation identified in the study were the lack of an overarching Fintech-specific legal framework, coordination difficulties and potential conflicts of jurisdiction in regulating and supervising Fintech.<sup>31</sup>

## Recommendations and conclusion

### *Recommendations*

A key determining factor in the furtherance of economic development through Fintech is government involvement and its support of innovative Fintech services and products. The government's facilitation of collaboration between public and private sector stakeholders such as banks and mobile network operators is critical to creating opportunities for both individuals and businesses to prosper. Governments and their partners can also promote innovative Fintech services and products by championing innovation awards for startups making an impact through banking technology implementations and innovations using emerging technologies. Breakthroughs can be recognised at local, national, and regional levels.

## Conclusion

As financial technologies continue to advance and new solutions are developed to address challenges in the financial sector, Fintech will continue to affect economic development both negatively and positively. This essay looked at how financial inclusion and improved efficiency in the financial sector can lead to the economic empowerment of individuals and businesses and catalyse economic growth. Cybercrime and challenges in reconciling illiteracy rates with developments in Fintech, on the other hand, can adversely affect economic development. Finally, regulation through legislation, regulatory sandboxes, and research-based regulatory frameworks were suggested as ways in which Fintech can be regulated.

## Notes

- 1 Similar terms have been coined to describe the various applications of technology in other sectors: HealthTech, InsurTech, RegTech, etc.
- 2 Patrick Schueffel, 'Taming the Beast: A Scientific Definition of Fintech', (2016) 4(4) *Journal of Innovation Management* 45.
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- 5 *Ibid.*
- 6 Maryann Feldman, et al, 'The Logic of Economic Development: A Definition and Model for Investment' (2016) 34(1) *Environment and Planning C: Government and Policy* 18.
- 7 *Ibid.*
- 8 S Mahendra Dev, 'Financial Inclusion: Issues and Challenges', (2006) *Economic and Political Weekly* 4310.
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- 10 Financial inclusion is also a target in eight of the 17 Sustainable Development Goals. UN Capital for Development and the Sustainable Development Goals (UNCDF and the SDGs), [www.uncdf.org/sdgs#:~:text=Financial%20inclusion%20is%20positioned%20prominently,eight%20of%20the%20seventeen%20goals](http://www.uncdf.org/sdgs#:~:text=Financial%20inclusion%20is%20positioned%20prominently,eight%20of%20the%20seventeen%20goals) accessed 27 December 2022.
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- 12 Rabson Kondowe, 'Financing Smallholder Farmers in Malawi', *Quartz*, 26 October 2022 <https://qz.com/emails/africa-member-brief/1849698402/financing-smallholder-farmers-in-malawi> accessed 28 December 2022.
- 13 *Ibid.*
- 14 UNCDF and the SDGS, see n 10, above.
- 15 *Ibid.*
- 16 Ibrahim Zeidy, 'The Role of Financial Technology (FINTECH) in Changing Financial Industry and Increasing Efficiency in the Economy' (2022) 14.
- 17 *Ibid.*
- 18 Chatchai Khiewngamdee and Ho-don Yan, 'The Role of Fintech e-Payment on APEC Economic Development' (2019) 1 *J Phys Conf Ser* 1234.
- 19 Joshua Masinde, 'Kenya's M-Pesa platform is so successful regulators worry it could disrupt the economy', *Quartz AFR*, 28 December 2016, <https://qz.com/873525/safaricom-m-pesa-has-kenyas-government-worried-what-happens-in-the-event-of-a-crash> accessed 27 December 2022.
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- 21 Khakan Najaf et al, 'Fintech Firms and Banks Sustainability: Why Cybersecurity Risk Matters?' (2021) 8(2) *International Journal of Financial Engineering* 2150019.
- 22 *Ibid.*
- 23 Mike McCaffrey and Doreen Ahimbisibwe, 'Digital Finance and Illiteracy: Four Critical Risks' [www.cgap.org/blog/digital-finance-and-illiteracy-four-critical-risks](http://www.cgap.org/blog/digital-finance-and-illiteracy-four-critical-risks) accessed 27 December 2022.
- 24 Jayoung James Goo and Joo-Yeun Heo, 'The Impact of the Regulatory Sandbox on the Fintech Industry, with a Discussion on the Relation between Regulatory Sandboxes and Open Innovation' (2020) 6 (2) *Journal of Open Innovation: Technology, Market, and Complexity* 1.
- 25 *Ibid.*
- 26 Ibrahim Zeidy, 'The Role of Financial Technology (FINTECH) in Changing Financial Industry and Increasing Efficiency in the Economy' (2022) 15.
- 27 Jayoung James Goo and Joo-Yeun Heo, 'The Impact of the Regulatory Sandbox on the Fintech Industry, with a Discussion on the Relation between Regulatory Sandboxes and Open Innovation' (2020) 6 (2) *Journal of Open Innovation: Technology, Market, and Complexity* 3.
- 28 *Ibid.*
- 29 *Ibid.*
- 30 CCAF, *Fintech Regulation in Sub-Saharan Africa*, Cambridge Centre for Alternative Finance at the University of Cambridge Judge Business School, Cambridge (2021) 65.
- 31 *Ibid.*, 22-23.

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# How can developments in Fintech impact upon economic development and how can it be regulated?

*'At the end of the day, customer-centric Fintech solutions are going to win.'*

Giles Sutherland

## Introduction

The Fintech technology revolution is in full swing worldwide and, while technological advancement in financial services has been moving ahead since the 1850s, the last two decades have seen breakthroughs with the power to further revolutionise financial services, driving the creation of new business models, applications, processes, and products, leading to consumer gain.<sup>1</sup> Fintech can achieve greater financial inclusion as advances in technology facilitate cross-border transactions, making payments, saving and lending money, getting insurance, and carrying out investments.<sup>2</sup> This essay will therefore, explore what Fintech is and how it affects economic development, and will suggest best practices for legal and policy considerations in regulating the Fintech industry.

## Fintech

Fintech is defined by the International Monetary Fund as technology-enabled innovation in the financial services industry that may result in the development of new business models, applications, processes and products.<sup>3</sup>

According to a study conducted by the Financial Technology Service Providers' Association (FITSPA), 'Fintech' is used in the financial services industry to refer to IT solutions that are dedicated to the use and delivery of financial services to consumers.<sup>4</sup> Technological advancements have disrupted financial firms' traditional business practices.<sup>5</sup> Initially, these technologies were used to optimise the back-end operations of financial services firms, but now they increasingly

represent technologies that are transforming traditional financial services models, in payments, money transfers, advances, asset management and other areas. The most widely used Fintech service offerings today are payments and billing, personal finance, lending, insurtech, money transfers and remittances, along with distributed ledger technologies like Blockchain, capital markets, wealth management, mortgages and real estate, and regitech.<sup>6</sup>

## Economic development

Economic development is defined as the process through which developing economies progress to become more advanced ones.<sup>7</sup> The economic development process involves the process by which countries with lower standards of living move to become nations with higher standards of living.<sup>8</sup> According to Todaro and others, development can be looked at as both a physical reality and as a state of mind in which society has secured the means to live a better life through a combination of social, economic, and institutional processes.<sup>9</sup> All societies' development must include the following goals, to:

- increase the availability and spread of basic life-sustaining goods like food, shelter, health and protection;
- raise living standards by providing more jobs, better education, and greater attention to cultural and environmental concerns, in addition to higher incomes; and
- broaden the range of economic and social options available to individuals and nations by liberating them from servitude and dependence not only on other people and nation states, but also on forces of ignorance and human misery.<sup>10</sup>



### The connection between Fintech and economic development

Fintech startups in Africa have played a key role in forging financial inclusion, fighting poverty, and increasing financial literacy in underdeveloped financial systems, thereby facilitating greater economic development across African countries.<sup>11</sup>

The World Bank defines financial inclusion as a state where individuals and businesses have access to useful and affordable financial products and services that meet their needs. The Bank sees financial inclusion as an enabler for reducing extreme poverty and for boosting shared prosperity in line with seven of the 17 Sustainable Development Goals.<sup>12</sup>

Increasing financial inclusion and expanding access to finance can contribute significantly to economic development, to expanded social mobility and to increasing the number of people able to participate fully in economic life.<sup>13</sup>

### How do developments in Fintech impact economic development?

Technological advancements in digital Fintech, such as distributed ledger technologies (e.g., Blockchain) and tokenisation have been used to reach desired social outcomes including greater financial inclusion as they widen access to financial services. Furthermore, Fintech has increased access to collateral for individuals unable to access it through traditional forms which has opened up opportunities and thereby increased economic development.<sup>14</sup> These technologies are bridging the financial inclusion gap even for the poorest, thereby improving standards of living when people can invest the resources they can now access in stock markets, treasury bills, bonds and crypto currencies using mobile financial services.<sup>15</sup>

According to McKinsey & Company, new technology-based solutions for everyday requirements such as buying airtime, transferring funds, and paying bills are now available to lower-income households costing over 80 per cent less than the rates traditional banking players charge for the same services.<sup>16</sup> These solutions have revolutionised how customers shop in the retail sector, not just in shops but online through the use either of cash, cards, or a mobile financial service.<sup>17</sup>

All these developments in the retail sector have a positive impact on people's ways of life.<sup>18</sup> The developments have seen great increases in convenience and value; and savings that are three times higher than traditional banks with the cost of remittances also cheaper. Fintech has also led to job creation and talent development in specialised areas such as software development, and increased access to lending in key economic sectors such as agriculture.

McKinsey & Company goes on to say that the growth of Fintech will benefit people by driving financial inclusion in the education sector by increasing development in tech-education, of greater gender inclusion of females in financial services which improves family welfare and productivity, in the public health sector by providing individuals with access to healthcare and health services such as micro-insurance, and increased financing in the agricultural sector.<sup>19</sup> A survey conducted by Finscope across East Africa reveals that paying for medical bills is one of the most pressing needs and developments in Fintech such as mobile money has made it easy for wealthy relatives to pay medical doctors directly and to remit money from abroad. There has seen an increase in the uptake of medical insurance.<sup>20</sup>

The World Bank notes that new technologies in Fintech have enabled more people to access finance. They are able to make and receive payments and to save more money, which means that people are able to achieve their goals and ambitions, have money for emergencies, to invest in their educations and healthcare, and gain greater access to insurance and credit. All this contributes to improved standards of living, improving economic development.<sup>21</sup>

Lastly, countries and regions with advanced Fintech development during the Covid-19 pandemic were found to have experienced a faster rebound in GDP growth and a stronger employment recovery rates.<sup>22</sup>

According to the East African Development Bank, the launch of mobile money has been pivotal in expanding formal financial inclusion throughout the region which has seen a reduction of poverty attributed to mobile financial services. Rural areas that suffered severe financial exclusion from low literacy rates and the high cost of accessing formal financial services have seen improvements.<sup>23</sup>

### Legal and policy considerations in regulating Fintech

*‘The key to success will be close collaboration between authorities and the Fintech sector in establishing a robust and agile regulatory system.’*

Stephen Ufford, CEO at Trulio

It is important to note that, while international Fintech regulation is evolving slowly, organisations led by the G20 and the World Bank have embraced it in their financial inclusion agendas.<sup>24</sup> Regulatory bodies play a complex role in protecting consumers’ rights and creating a conducive environment for businesses to grow and thrive.<sup>25</sup>

Regulators have introduced Fintech-specific initiatives, adopting approaches and tools tied to the risk of regulatory failure. Two approaches taken, including in Africa, have focused on larger regulatory framework concerns: regulatory, policy, and authorisation reform, as well as Fintech-specific tools put in place to either monitor or support the sector, or both. With both approach, data protection frameworks, competition policies, regulatory sandboxes,<sup>26</sup> and Fintech offices have been established aimed at promoting regulation and reducing regulatory barriers to entry.<sup>27</sup> Countries have adopted different approaches in regulating the Fintech industry, looking here to Uganda to address the different market and regulatory failures. The best practices for regulation of the industry include the following.

#### *Development of a comprehensive consumer protection framework*

This framework will help develop the Fintech sector and subsequently mitigate any market failures that may arise. According to the World Bank, countries that have achieved high rates of financial inclusion have prioritised consumer protection and financial capability in order to expand responsible and sustainable financial services.<sup>28</sup> Uganda recently passed the Data Protection and Privacy Act, 2019. The Act’s goal is to protect the privacy of individuals and their personal data by regulating its collection and processing. It also gives rights and sets obligations for the person whose data is collected and for those involved in data collection, its processing and control. These measures stand to increase trust in financial services and in the uptake and use of technology-enabled financial services.

The development of this framework should also trigger the use of existing strategies under the National Financial Inclusion Strategy 2017-2022, which provides for conducting consumer protection practices reviews for all financial service providers.

#### *Addressing priority areas in Fintech which present systemic risk*

The Financial Sector Deepening Uganda, a non-profit organisation, indicates that to mitigate potential systemic risk and financial stability in the Fintech industry, regulators in Uganda must implement a pre-emptive approach to risk mitigation.<sup>29</sup> Governments have an obligation to strike a balance between promoting innovation and managing associated risks, as Fintech plays an important role in democratising finance in both developed and developing economies.<sup>30</sup> The Financial Stability Board identified three priority areas that can be used to safeguard financial stability while fostering more inclusive finance. These are: the management of operational risks from third-party service providers; the mitigation of cyber risks; and regular monitoring of macro-financial risks.<sup>31</sup>

#### *Promoting competition in financial services*

The growth of the Fintech industry in Uganda (and elsewhere) creates a wide opportunity to promote competition in its financial services industry. This in turn will promote financial inclusion and further the need for innovation, towards which it is necessary to develop a comprehensive approach to financial services as so not to stress existing legislation.<sup>32</sup> Licensing requirements, probably across borders should be harmonised and streamlined, which will in the long run enhance the speed and scale of Fintech growth.<sup>33</sup>

#### *Fintech education for regulators*

This consideration is vital for the growing Fintech industry given the limited understanding of the current regulation in Uganda. It’s important that regulators are given opportunity to learn from and share experiences on such big platforms as the Alliance for Financial Inclusion (AFI) and also a need for them to undergo training and take up educational opportunities to further understand the dynamics involved in the Fintech industry.<sup>34</sup> The Uganda Fintech

Association (FITSPA) has an important role in creating a platform for dialogue between the authorities and the players in the Fintech industry and, lastly, there is a need to develop Fintech-specific regulatory initiatives like innovation hubs and regulatory sandboxes as channels to foster learning and engagement with different financial technology-based service providers and the implications of the regulations they enforce.<sup>35</sup> Policies to support the adoption of new technologies and business models and to promote financial market infrastructure development, can help boost the potential of Fintech to narrow financial inclusion gaps and therefore support inclusive development.<sup>36</sup> The Covid-19 pandemic and its adverse economic impacts necessitate solutions for sustainable and inclusive financial development, which can be promoted through Fintech.<sup>37</sup>

#### *Clarification of the regulatory approach to Fintech*

An uncertain regulatory environment poses a barrier for Fintech to innovation and entry into the financial services market. A well-functioning regulatory environment is critical to realising the benefits of the Fintech industry.<sup>38</sup> Greater coordination among regulators is needed to improve clarity and certainty in the Fintech regulatory framework.

There is a need to adopt functional based regulation as opposed to regulation based on the type of institution that provides a particular product or service. Furthermore, the current regulatory framework is rule-based where the regulators prescribe the rules to follow, this mode limits flexibility and innovation.<sup>39</sup>

According to the National Financial Inclusion Strategy, ‘traditional regulatory rules will not necessarily work for new products – and may even stifle innovation and, finally, there is need to develop Fintech-specific regulatory compliance initiatives.’<sup>40</sup>

Financial inclusion for everyone should be a consideration when trying to regulate the Fintech industry. The World Bank notes that governments need to deliver policies on a large scale such as universal digital ID-India which has enabled over 1.2 billion residents to be covered, to leverage payments made by the government have enabled an estimated 35 per cent of adults in low-income countries to get their first financial account, creating a conducive environment for Fintech to

prosper; and the development of National Financial Inclusion Strategies (NFIS).<sup>41</sup>

Lastly, there should be a form of self-regulation among the Fintech players to make sure they are compliant with the government policies and regulations set in place and also ensure that they are working on an equal footing to avoid mistrusting each other. For example, in Uganda, the Financial Technology Service Providers Association is the umbrella body for Fintech in Uganda and has 194 members.<sup>42</sup> Such bodies are used to influence policy development, represent members’ interests and provide a platform for them to dialogue on issues, trends and opportunities in the sector, promote public perception and understanding of the importance and function of technology in the banking and financial sector and they can be used to forge local and international partnerships.<sup>43</sup>

#### **Conclusion**

Fintech has the potential to impact financial inclusion and economic development in Uganda and worldwide. Advancements in digital financial solutions have expanded the reach and access to finance for consumers which has a far-reaching impact on people and is also capable of propelling economic development. However, this calls for proper regulation by the governments which can only be achieved through close collaboration with all the players in the Fintech industry.

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# How can developments in Fintech impact upon economic development and how can it be regulated?

## Introduction

The recent rise of financial technology – or Fintech – has been meteoric. Financial institutions are often the vanguard of innovation, be it with the development of new products or moving into new markets. Fintech has expanded dramatically in the financial industry thanks to the rapid expansion of the internet, the development of information technology, mobile phones, and digital technologies. However, the

growth of Fintech is one of the most telling developments of all, taking some financial institutions by surprise. Accordingly, the impact of Fintech on economic development can be both negative and positive. As such, Fintech should be regulated, in order to increase its positive impacts and to eliminate or decrease the negative. This essay aims to address these issues. As a starting point, we will define both Fintech and economic development. We then discuss the positive

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and negative impacts of developments in Fintech on economic development and how should it be regulated.

### **Fintech**

Fintech is a combination of the words 'finance' and 'technology'. Although it's a blanket term that can mean different things, broadly speaking, it describes the evolution of an industry where new technologies are developed and introduced to expand upon more traditional finance functions.<sup>1</sup> Fintech describes new technologies that seek to improve and automate the delivery of financial services. At its core, Fintech is used to help companies, business owners, and consumers to better manage their financial operations, processes, and lives by using specialised software and algorithms offered through computers and, increasingly, smart phones.<sup>2</sup> Fintech describes technologies that deliver financial services through software, such as online banking, mobile payment apps or even crypto currencies. It encompasses many technologies, with the primary objectives to change the way consumers and businesses gain access to finance and compete with traditional financial services.

### **Economic development**

Economic development is the growth of a nation's standard of living including both lower- and higher-income economies. This encompasses changes in income, literacy and education levels, as well as the socio-economic structure of a country. Economic development involves a sustained increase in the production of goods and services, typically accompanied by fundamental structural changes. Among the determinants of economic development may be more efficient resource allocation; patterns of greater investment and savings; improvements in science and technology; an increase in skills and education; and economies of scale.<sup>3</sup>

The concepts of economic development and economic growth are often used interchangeably, yet are not the same. Growth is a component of economic development that is narrower in nature and cannot therefore be equated to development. De Beer and Swanepoel refer to economic growth as the sustained rise in the production of goods and services in a nation.<sup>4</sup> Additionally, economic growth is measured

in monetary terms over a specified period. The most common measurements are gross domestic product (GDP) and gross national product (GNP). All the same, growth is a key driver of economic development and can therefore be a factor in poverty reduction, as well as the economic development of lower income nations.

### **The impact of Fintech on economic development**

The impact of Fintech on economic development may differ across countries. For instance, developed countries have advanced Fintech tools compared to that available in developing countries. This might boost developed countries' economic development through increased employment and investment, while developing countries see less impact. The development effect of Fintech depends on multiple factors, such as financial development, investment, and employment. These factors are more stable in developed countries compared to developing countries. Thus, developed countries with higher levels of Fintech development, investment, and employment are often better positioned to obtain higher economic development as compared with the developing countries with lower financial development, rates of investment and employment. Accordingly, I will discuss both the negative and positive impacts of developments in Fintech on economic development.

### ***Positive impacts of Fintech on economic development***

Finance is a great creation by humans. By using sophisticated information processing systems bundled as finance, people can allocate a finite resource to productive areas with potential.<sup>5</sup> This, in turn, has served as a dynamic driving force for the building of economic society. As such, if innovation in information technology and Fintech enhance the efficiency of finance, or if Fintech is able to develop, it will and should eventually contribute to economic development. The following are some of the positive impacts of developments in Fintech on economic development.

### *Promoting urbanisation*

The emergence of a digital divide or a lack of internet access may hinder urbanisation and adversely affect development. However, Fintech can help improve the accessibility and affordability of financial services, particularly for population sectors formerly excluded from such services. Improved access is expected to stimulate the development essential for promoting urbanisation, possibly alleviating the negative impacts of a digital divide and creating a trickle-down effect.<sup>6</sup> Accordingly, Fintech development can promote urbanisation by transferring labour from agricultural to non-agricultural areas. Therefore, Fintech development helps generate additional jobs and raise income in non-agricultural sectors, stimulating urbanisation even for those without access to the internet.

### *Reducing poverty*

Poverty remains one of the major challenges of the 21st century. It involves insufficient access to financial resources and is linked to disease, the formation of dangerous social groups, the absence of leisure activities, stigmatisation, low standards of living, economic hardship and poor diet. Consequently, ending poverty in all its forms remains paramount to policy makers and international organisations such as the United Nations and the World Bank.<sup>7</sup> Fintech stands to play a valuable role in poverty alleviation. Developing Fintech tools can improve the chances of the poor accessing finance by solving the problems of financial market failures such as information asymmetry and high lending costs to both borrowers and lenders. As such, Fintech has the capacity to reduce poverty by lowering transaction costs. The development of Fintech also helps the poor to spend their savings or to borrow money to start microenterprises, which in general promote broader financial services access, create more jobs, and improve incomes, thus reducing poverty.<sup>8</sup> Finally, the development of Fintech can boost economic growth more broadly which also indirectly reduces poverty.

### *Reducing the cost of economic development*

Relying on emerging cutting-edge technologies such as Big Data, cloud

computing, and Artificial Intelligence (AI), financial institutions are forming a digital operating model with Fintech at its core, improving their customer outreach and reducing promotion costs.<sup>9</sup> In addition, the development of Fintech also improves information transparency, reduces information asymmetry, realises effective allocation of financial resources, and creates necessary conditions for economic development.

### *Enhancing vitality of innovation*

As the new force of innovation, small and micro enterprises usually find it difficult to obtain loans due to financial opacity, lack of mortgage guarantees, and other important reasons for the lack of economic innovation vitality.<sup>10</sup> A deep application of Fintech makes the loan process of small and micro enterprises online and more intelligent. Fintech reduces the financing cost of small and micro enterprises, effectively solving the problem of 'the last kilometre', and adds vitality to promote economic development.<sup>11</sup>

### *Maintaining food security*

Fintech-enabled digital markets could help agricultural businesses process become more sustainable by enhancing finance (e.g., crowd funding) and distribution (e.g., digital payment systems). Farmers, landowners, investors, and consumers can all be connected to a digital network that fosters transparency, empowerment, resourcefulness, and public participation.

### **Negative impacts of Fintech on economic development**

Although developments in Fintech can have a tremendous positive impact on economic development, they equally pose risks to the economic development of countries. The following are some of the negative possible impacts of developments in Fintech on economic development:

#### *Hinder market fairness*

Fintech developments may have the capacity to hinder market fairness. Fintech companies use accumulated data to improve their profitability and promote economic development. However, such companies constantly build and solidify industry barriers

that form unequal competition for other companies that lack this data or the tools to acquire it.<sup>12</sup> When innovators become innovation blockers, Fintech becomes a tool for oligopoly, leading to less market activity and hindering economic development.

#### *Exacerbating systematic risks*

The development of Fintech can exacerbate systemic risks. Its development is continuously extending the financial service chain, leading to risk spill-over and adding new routes of contagion.<sup>13</sup> At present, the Fintech business is pro-cyclical and volatile. The long-tail groups such as retail investors greatly influence the finances, and the herd effect is significant. Once a liquidity run occurs, it is easy to cause a risk chain outbreak, causing substantial damage to the economic development.<sup>14</sup>

#### *Decline efficiency of financial services*

The rapid development of Fintech has made financial boundaries more blurred. Traditional regulatory rules have failed to keep pace with the innovation of Fintech, and governments lack laws to regulate this field. In the guise of Fintech, there are countless enterprises committing cyber-crimes, and problems such as regulatory vacuums and regulatory arbitrage to disrupt the order of the financial market, resulting in a decline in the efficiency of financial services to the economic development.<sup>15</sup>

#### *Creating financial instability*

Fintech could have an adverse systemic impact to financial stability and may produce serious negative effects to further endanger economic development.<sup>16</sup> Through this, Fintech may undermine financial stability through micro- and macro-financial channels. Therefore, Fintech could create micro- and macro-financial risks to financial stability. In other words, Fintech could create financial instability.

#### **Why should Fintech be regulated?**

One objective of new Fintech regulations is to combat the criminal activity Fintech can facilitate. As technology evolves, so do those looking to cheat the system. As technology alters financial services attributes and market structures, financial regulation must adapt

to remain effective. After the 2007/2008 global financial crisis, regulators have been trying to balance the objectives of innovation and growth with considerations of financial stability and consumer protection. As a result, they are developing an increasing number of experimentation-based approaches.<sup>17</sup> Some involve regulators establishing contact points to meet with new entrants to learn about technologies to be able to develop appropriate regulatory responses.

Regulations have evolved to protect financial institutions, their customers, and the wider economy from financial crime. Anti-money laundering and ‘know your customer’ regulations are frequently updated to combat new developments in fraudulent and criminal methods.<sup>18</sup> Where Fintechs operate in the financial services industry, in customer verification or in transaction support, they should ensure the same checks and security as the major financial institutions.<sup>19</sup> Therefore, any institution involved in financial services activities must comply with applicable regulation, and this certainly applies to Fintech. Without regulation, it would be difficult (if not impossible) for Fintechs to operate widely in the financial services sector.

#### **The main Fintech regulatory issues**

There are several Fintech regulatory issues, three of which pose the most significant risk.

##### *Data privacy*

Data privacy is one of the most important regulatory issues in Fintech. Fintech companies collect and process large amounts of customer data. This raises concerns about how such data will be used and protected. One of the most critical issues in developing financial technology is risk assessment and data breach prevention. When regulatory bodies uncover a data leak, they may be able to identify the perpetrator from non-compliance with anti-data-leak regulations.<sup>20</sup> In countries that are members of the European Union, non-compliance with anti-data-leak financial technology regulations can result in hefty fines.<sup>21</sup>

##### *Money laundering*

Money laundering is a process whereby the proceeds of criminal activity are melded into appearing to be legitimate funds that

were legally obtained. Money laundering costs firms and governments more than US\$2tn each year.<sup>22</sup> This issue is relevant for the regulation of Fintech because of the way Fintech companies facilitate payments and transfers. Fintech companies are required to comply with anti-money laundering (AML) regulations. Such regulations require financial and other institutions to take measures to detect and prevent money laundering. AML laws and programmes for Fintech regulation should include customer identification and screening, transaction monitoring and the reporting of suspicious activity.<sup>23</sup>

### *Cyber attacks*

Financial institutions are a common target for cyber-attacks. Fintech companies can hold large amounts of data which makes them attractive targets for cybercriminals. Such firms in addition may be less prepared to defend against cyber-attacks than traditional financial firms although all financial firms need to have robust cyber security programmes in place to ensure due protection.<sup>24</sup> Such programmes should include data encryption, firewalls and intrusion detection systems.

### **How should Fintech be regulated?**

First, let's see the most common Fintech regulatory approaches. These are: 'wait and see', 'test and learn', innovation facilitators, and regulatory laws and reforms.

#### *'Wait and see'*

This approach is defined by regulators observing and monitoring the trend(s) of innovation from afar before intervening where and when necessary. Over time, however, as regulators gain capacity around innovation, and technology becomes more commonly adopted by licensed entities, policymakers may incrementally change regulations over time. A 'wait-and-see' approach has commonly emerged when there is regulatory ambiguity on whether an activity falls under the remit of a particular institution. Alternatively, when there has been a need to further build regulator capacity prior to issuing a response, a 'wait-and-see' approach has offered regulatory forbearance in order to allow innovations to develop unhindered. In some instances, depending

on its application, this approach also includes a 'do nothing' response.

#### *'Test-and-learn'*

This involves the creation of a custom framework for each individual business case, allowing it to function in a live environment, often with a 'no objection' letter from the regulators.<sup>25</sup> However, the extent of monitoring and oversight, as well as the safeguards put in place, vary per jurisdiction. In some circumstances, officials used a 'soft touch' approach without tight supervision; while in others, policymakers used more elaborate frameworks on a case-by-case basis that required strict supervisory attention and control.

#### *Innovation facilitators*

A point of contact or a structured framework environment to promote innovation and experimentation. this category includes innovation hubs/offices, accelerators and regulatory sandboxes as different types of facilitators.

#### *Regulatory laws and reforms*

This refers to the introduction of new laws or licences – both overarching and product specific – in response to innovative firms or business models. In some cases, countries have used the development of new laws to expand their mandate, and to build capacity and accountability while supporting the development of more discreet, secondary reforms and amendments to frameworks.<sup>26</sup>

Each of the aforementioned regulatory approaches have pros and cons. Regulators, therefore, in deciding which approach or sequence of approaches to adopt in order to inform subsequent policy responses, have a number of considerations before them.<sup>27</sup> These include: the objectives they are trying to achieve; how Fintech plays into the overarching strategy for the country; critical success factors considerations; and importantly, the country's circumstances. A country's circumstances is one of the most important considerations in debating the suitability of a regulatory approach. Before a jurisdiction chooses its best approach, authorities should step back and objectively review their existing legal and regulatory frameworks, and the stakeholder ecosystem including the private sector and other



regulatory or supervisory bodies, the capacity and resources available to the regulator, as well as market conditions including competition criteria and the maturity of the Fintech market.<sup>28</sup> This assessment will help regulators or policy makers understand and identify key objectives and priorities, the feasibility of undertaking particular approaches (given capacity and resources) and the appropriateness of that approach given the country context and its alignment to policy objectives.

Across the regulatory approaches discussed above, regulators should also recognise the need to establish methods to mitigate the risks of Fintech in employing new regulatory approaches. First, they should assess the regulatory perimeter and update it on a timely basis. Regulators should be agile when there is a need to respond to rapid changes in the Fintech space, and to implement or contribute to a process to review the regulatory perimeter regularly.<sup>29</sup> Second, they are supposed to build staff capacity in new areas of required expertise. Supervisors and regulators should consider placing greater emphasis on ensuring they have the adequate resources and skill-sets to deal with Fintech. Third, they need to mitigate cyber risks. Cooperation at the global level has the potential to minimise undesirable consequences of fragmentation of the cyber-security efforts and raise awareness of cyber risks.<sup>30</sup> Ex ante contingency plans for cyber-attacks, information sharing, monitoring, a focus on incorporating cyber-security in the early design of systems, and financial and technology literacy could help to lower the probability of cyber events that have adverse effects on financial stability and economic development. Fourth, they need to monitor macro-financial risks. While there are currently no compelling signs of these risks materialising, experience shows that they can emerge quickly if left unchecked.<sup>31</sup> Fifth, they should further develop open lines of communication across relevant authorities. Due to the potentially growing importance of Fintech activities and the interconnections across the financial system, authorities may wish to develop further their lines of communication to ensure preparedness. Sixth, share learning with a diverse set of private sector parties. In order to support the benefits of innovation and economic development through shared learning and through greater access to information on developments, authorities should continue

to improve communication channels with the private sector and to share their experiences. Finally, they must contribute to greater international cooperation. Increased cooperation will be particularly important to mitigate the risk of fragmentation or divergence in regulatory frameworks, which could impede the economic development and diffusion of beneficial innovations in financial services and limit the effectiveness of efforts to promote financial stability and economic development.

### **General recommendations on how Fintech should be regulated**

First and foremost, regulators must establish objectives and policy priorities. They must then examine the conditions and feasibility. Then, identify any potential risks. Following that, the appropriate regulatory approach must be chosen. Following the selection, the approach's outcomes should be measured. Following this, policy response implementation takes place. These policy responses are as follows: apply an existing regulatory framework; adjust an existing regulatory framework; or create a new regulatory framework. In addition, every jurisdiction should set up an institution which devoted solely to regulation of Fintech. The other is that, because the influence of Fintech is not restricted to a single jurisdiction, governments should work together to mitigate its negative impact. Developed countries, for example, must support developing countries. Finally, regulators should work with Fintech companies. This will assist regulators in better understanding the Fintech industry, which will aid them in the regulatory process.

### **Conclusion**

In general, the effects of Fintech advancements on economic development can be both beneficial as well as harmful. Fintech can have a positive impact on economic development by encouraging urbanisation, reducing poverty, lowering the costs of an economy, and increasing the vitality of innovation. It can negatively impact economic development by hindering market fairness, amplifying systematic risks, and decreasing the efficiency of financial services. Fintech should be regulated in such a way that it creates a conducive environment for Fintech company owners while also

managing the risks of Fintech on economic developments. This is owing to the reality that the consequences of an unregulated Fintech industry can be disastrous to economic development. Therefore, in order to increase the positive impact of Fintech development upon economic development and eliminate or mitigate its negative impact, Fintech should be properly and carefully regulated.

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# How can developments in Fintech impact upon economic development and how can it be regulated?

## Introduction

Financial technology (Fintech) describes new technologies that seek to improve and automate the delivery and use of financial

services.<sup>1</sup> At its foundation, Fintech uses specialist software and algorithms run on computers and, increasingly, on smart phones to assist organisations, company owners, and individuals in better managing

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their financial operations, procedures, and lifestyles. The development of Fintech impacts economic development through bringing positive effects as well as challenges for the financial industry, financial supervision, financial stability, and monetary policy.<sup>2</sup> As a result, the impact of Fintech on economic development should be regulated, regulated to increase the positive impacts and reduce the adverse effects. This involves inter alia enacting and enforcing laws to regulate Fintech's use.

The purpose of this essay is to grasp the impact of Fintech on economic development and how it should be regulated. To do this, we discuss the rise of Fintech and economic development with the positive and negative impacts of Fintech on economic development, as well as methods of effectively and properly regulating Fintech development.

### **Fintech**

Fintech is a catch-all word for any technology used to improve, streamline, digitalise, or even disrupt traditional financial services. Fintech refers to the integration of technology into offerings by financial services companies to improve their use and delivery to consumers.<sup>3</sup> Fintech has the potential to bring financial efficiency through financial innovation and technology spill-over, reducing service costs and information asymmetry. The use of Fintech platforms allows for common financial operations to take place, including cheque deposits, account transfers, bill payments, and financial aid applications. Additionally, it makes technically complex ideas more accessible, such as peer-to-peer lending and cryptocurrency exchanges.

Fintech is transforming the global economic system, especially since the breakout of the Covid-19 virus. As a result of the pandemic, an increasing number of companies are embracing Fintech to accept contactless payments or to implement other tech-driven innovations.<sup>4</sup>

### **Economic development**

Academics have offered different interpretations of the idea of economic development. It may be defined as a strategy for achieving long-term improvements in wealth and quality of life via innovation, reduced transaction costs, and the effective

use of resources in the responsible production and diffusion of goods and services.<sup>5</sup> It is also about increasing enjoyment of other non-economic goods such as education and health services as well as rights.<sup>6</sup> As a result, it typically fosters society's wellbeing by producing wealth that is equitably, effectively, and efficiently available to all members of society. As resources are finite and unevenly distributed, sustainable economic development requires government action to manage society's economy. To achieve economic development, such as the provision of sufficient food and clothes, shelter, and services for education, health, and sanitation, a government may also develop current economic activity by constructing infrastructures or by introducing new economic activities.<sup>7</sup>

### **Impacts of Fintech on economic development**

The development of Fintech can positively and negatively affect economic development. It can have a positive impact by increasing competition, creating productive jobs, boosting economic innovation, and improving financial sector efficiency, all of which contribute to economic development. Similarly, the development of Fintech can negatively impact economic development too. These impacts of Fintech's development on economic development will be discussed in subsequent paragraphs.

#### *Creating competition, innovation and job productive in economy*

Fintech's capacity to collect and interpret data in real time is transforming how business is conducted, how goods and services are developed in the new economy, and how customers engage in this process. Fintech is facilitating this shift. It is currently impossible to overstate the catalytic effects of Fintech and its potential to unleash a new era of competition, innovation, and productivity that creates jobs across economies.<sup>8</sup> Fintech developments may also see disruption through new, innovative products and services that can benefit customers and support other areas of the economy, while driving improvements in conventional financial services and thus, the development of Fintech can, ultimately bring about economic development.

*Bring efficiency in financial sector*

Fintech can directly impact the efficiency of the financial sector, which is how savings and investment are intermediated in an economy and which then affects economic development. Fintech forms part of the digital economy which has seen innovations that have transformed the way we live, even as productivity has been slowing across advanced economies for decades. E-payment systems and M-Pesa are among the Fintech successes that have increased financial access for previously un- and under-banked people and are a perfect example of how development in Fintech has disrupted the financial sector and increased efficiency across the economic development spectrum.<sup>9</sup>

*Helps to alleviate poverty*

Ending poverty in all its forms remains a priority for policymakers and international organisations such as the United Nations and the World Bank as it is still one of the biggest challenges facing people in the 21st century. Poverty involves a lack of financial resources and is linked to disease, the formation of risky social groups, a lack of leisure time, stigma, a low standard of living, economic hardships, and poor nutrition.<sup>10</sup>

In alleviating poverty, Fintech can play an important role as it has the capacity to improve access to finance by resolving financial market failures such as information asymmetry and the high lending cost to borrowers and lenders. It also helps the poor to spend their savings or to borrow money to start microenterprises, which in general promote broader financial services access, creating more jobs and raising incomes, thereby reducing poverty.<sup>11</sup> Extending financial services to the poor through traditional financial institutions remains a challenge, however, such institutions also seeing change through Fintech.

Lastly, it is important to shed light on the development of Fintech as a potential threat to economic development, discussed in the next paragraph.

*Cyber-attack risks to economies*

The development of Fintech has the potential to increase attacks on vendors across entire economies because the more that systems become inter-connected, the more vulnerabilities will increase for cyber-criminals to exploit. An example of this is the story of the US\$81m bank heist in Bangladesh that

used a vulnerability in a third-party technology provider (SWIFT).<sup>12</sup>

*Financial stability can be under risk*

Fintech developments can undermine financial sector stability. Pro-cyclicality, excess volatility, contagion, and third-party reliance are ways in which Fintech introduces certain threats to financial stability. Through Fintech, there is often an increased reliance on third-parties in operations and services which can introduce vulnerabilities. For example, where a cloud computing company is used and later has an operational downturn or unexpectedly closes down, affecting the financial institution. As a result, it can create systemic risk in financial sector that leads to financial instability.<sup>13</sup>

Fintech credit companies may also have limited incentives to assess credit quality accurately or maintain lending standards due to huge involvement of retail investor and its relatively high interactions among Fintech lending and borrowing platforms. This could exhibit larger swings than traditional intermediation of funds and therefore risk increased pro-cyclicality.<sup>14</sup>

*Fintech developments can result in job losses*

Fintech developments can lead to job losses in the financial sector as such institutions offer new services that change the way people interact with financial institutions.<sup>15</sup> Crowdfunding, mobile banking services, apps, and online banking technology reduce the need for people to visit bank branches and meet with advisors for financial transactions. This situation will make jobs previously performed by humans now possible through technology, resulting in job losses, which may ultimately adversely affect economic development as it is difficult to imagine economic development without better job opportunities.

**How should Fintech be regulated?**

Unless Fintech is properly regulated it presents an opportunity for criminal activities that can also undermine economic development. As technology evolves so do those looking to cheat the new systems and, as technology alters financial services and market structures, financial regulation must therefore adapt to remain effective.<sup>16</sup> As such, laws and policies must be in place that support the new technologies in order to regulate Fintech.

A combination of entity-based, activity-based and mixed regulatory approaches are needed to fully regulate Fintech. Activity-based regulatory approaches are usually good for consumer protection including transparency obligations, mobility across providers, pricing policies, responsible publicity for financial products, and fitness and suitability assessments.<sup>17</sup> This means that policy makers must ensure an enabling environment for digital financial innovation to continue, grounded in transparency and trust for consumer protection. Such an environment should also remove constraints for data exchange and allow payment systems both domestic and cross-border to be interoperable.<sup>18</sup>

An activity-based regulatory approach is also important to regulate Fintech. Governments need to take steps to ensure easy entry and fair competition with due prudential regulation in place, like having a well-developed financial infrastructure. Standardised and uniform regulations can also make platforms and technologies more accessible for firms and consumers, helping to lower the barriers to entry and participation in financial platforms.<sup>19</sup> It is reasonable to argue that creating an environment in which the rule of law is upheld will help in fairly regulating Fintech developments, and that balanced and risk-appropriate regulations are required to help curb any potential negative effects Fintech may have on financial stability, helping to create a safe and enabling environment for investors.<sup>20</sup>

The regulation of operational resilience, which includes provisions related to cyber security, business continuity and third-party providers, can be controlled through a mixed regulatory approach of the two.<sup>21</sup> In general, strong institutional and policy reforms also need to be in place in line with the three regulatory approaches in order to regulate the development of Fintech and its impact on economic development.

### Conclusion and recommendations

Academics and policymakers have paid special attention to the Fintech literature, yet there are insufficient studies assessing the contributions of Fintech to economic development. As a result, this essay adds to the limited studies that have been carried out on the effects of Fintech on economic advancement, the causal links between Fintech and economic development, and how to regulate Fintech to derive the greatest benefit from it. The essay suggests that

policymakers should support the growth of Fintech but that significant institutional and legal reforms are required in order to regulate Fintech effectively.

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# How can developments in Fintech impact upon economic development and how can it be regulated?

*'Fintech provides what the African economy has wanted all along, greater purchasing power and more money that isn't taken up by fees or other nonsense.'*

George Gordon

'The future of money is rooted in increasing access to the financial services system for more people and beneath it is the underlying holy grail, which is data. Access ensures that anyone is able to actively participate in financial systems, by building relevant financial products and services that engage all communities and match their lifestyle needs. Ultimately by expanding access and with new Fintech innovations, we can provide people and businesses with agency across their entire lives enabling them to be fully in control of their financial lives. Fintech and other technologies can offer people healthier options, granting them decision power and security in their everyday lives.'

Kelly Fryer

## Introduction

The industrial revolution saw the most fundamental transformation of human life since the development of agriculture. It brought significant and far-reaching socio-economic changes including the emergence of new class structures in the world, urbanisation and a rapid change in living conditions.<sup>1</sup> But past generations have not seen the latest revolution, which is the power of modern technology in assortment with the prevailing financial setting. Fintech offers a chance for sustainable economic development to all humanity, not just to a particular class, and the opportunity to eradicate all suffering. This essay analyses this relationship between Fintech and economic development and addresses the issue of its regulation.

## Fintech

The word Fintech is a portmanteau of 'financial' and 'technology'. It is derived from the two complementary areas of financial services and solutions based on advanced technology.<sup>2</sup> The economic literature does not agree on a single definition of Fintech however given the overall diversity of the business.<sup>3</sup> Financial technology (Fintech) is defined in its broadest sense to mean the application of new technologies and/or innovative business models that leverage existing information and communications technology in providing financial services.<sup>4</sup>

Fintech is by no means a new phenomenon,<sup>5</sup> and it is argued that its antecedents date back to the 19th century and earlier.<sup>6</sup> Technology has supported financial processes to advance and automate the delivery and use of financial services by consumers and business owners for some time, with developments in the last two decades seeing the term take new shape.

The introduction of the telegraph and the laying of the first successful transatlantic cable provided the fundamental infrastructure for the first major period of financial globalisation in the 19th century. The subsequent introduction of the Automatic Teller Machine (ATM) in 1967 arguably marked the starting-point of today's Fintech evolutions.<sup>7</sup> Since then, computer and telecoms technologies have transformed exponentially, tools used by the financial services sector to change how consumers and businesses interact with it. From ATMs, mobile trading, e-banking, e-commerce, and high frequency trading, technologies have shaped and disrupted the financial and banking sector for some time. The emergence of Fintech can be seen by analogy in of the fable of David and Goliath<sup>8</sup> as the rise of Fintech has moved to displace traditional financial services and even put

the future of the financial services industry in the hands of Fintech. Fintech as a term has come to describe breakthroughs in technology that potentially have the power to transform the provision of financial services, drive the creation of new business models, applications, processes, and products, and lead to consumer gains.<sup>9</sup> It is evident that Fintech stands to radically transform the financial sector, and to have an impact on economic development of the world at large.

### Global and regional Fintech developments

Fintech is a global phenomenon<sup>10</sup> with significant momentum which has reshaped the dynamics of the financial sector. Through Fintech, financial services are now almost universally available in some form, notwithstanding that, in emerging markets, 1.6 billion people and 200 million small businesses remain without access to formal financial services.<sup>11</sup> The majority of the adult population in Sub-Saharan Africa remains un- or under-banked – over 340 million adults do not have a bank account.<sup>12</sup> Banking in Africa is held back by factors such as currency fluctuations and a small supply of products for savings, insurance, credit, and payment transactions.<sup>13</sup>

This shows the gap between traditional financial services and people in low-income sectors and nations, with this margin showing increasing reconciliation from the developments of instruments and processes such as mobile phones, artificial intelligence (AI)/machine learning and Big Data analytics, blockchain/distributed ledger technologies, and cloud computing, each of which have stimulated the development of Fintech.<sup>14</sup> New efficient trends have developed from advances like cryptocurrencies, digital platforms for mobile banking, trading and other products. The dramatic growth of Fintech is driven by the ability to deliver financial services with more convenience than offered by traditional players in financial and banking services and increased speed at a competitive price point.

These technology-enabled solutions are disrupting traditional financial services which has challenged incumbent service providers. In Africa, Fintech has been a transformative tool for the development. Africa's Fintech industry is coming of age. In the face of political and economic challenges and a global pandemic, Fintech is booming on the continent. African Fintechs have made

significant inroads into the market, with estimated revenues between US\$4-6bn in 2020<sup>15</sup>, such figures in line with global market leaders.<sup>16</sup> The emerging trends of Fintech have solved or eased inefficiency difficulties associated with traditional financial and banking services.

### Economic development

Economic development is often denoted as the driving force behind all true progress and happens in a relatively stage-based progression. It is well-defined as the long-run process where national economies of low-income and under-developed manufacturing methodologies are transformed to foster modern high-income and industrial economies through innovation and entrepreneurship. Economic development is focused on quality improvements, risk mitigation, innovation, and entrepreneurship that place the economy on a higher growth trajectory.<sup>17</sup> Economic development is a broad concept of the economic betterment of standards of living for individual wellbeing and the community as a whole. It should, however, be differentiated from economic growth as the two terms are not identical.<sup>18</sup> Economic growth refers to increases in a country's production or income per capita over time, concerned with an upsurge of aggregate output. Growth may be necessary but not sufficient component of economic development.<sup>19</sup> Economic development is economic growth accompanied by changes in output distribution and economic structure.

Economic development is the basis of growth in society, as implying economic growth through variables of criterion like per capita figures for example, income, output. Many methods of measurement are inadequate because they do not take into consideration reasonable socio-economic factors that cannot be easily quantified and yet affect the wellbeing of individuals. These include levels of education, literacy, recreation, and health factors such as infant mortality, morbidity rates, and life expectancy, nutrition, among others.

Many nations suffer significant income inequality and limited educational attainment, with women and immigrants among the sectors most impacted despite economic growth with insufficient support for economic development, longer-term outcomes that lead to broad-based improvements in quality of life and where

widespread prosperity remains inaccessible.<sup>20</sup> This is vital to this dialogue, as the ultimate goal is to improve the general quality of life and economic prosperity for the good of humankind. Therefore, the test of Fintech's impact is based on these intermediate goals, innovation for example which reduces barriers to entrepreneurship and private sector investment enabling full realisation of the potential of the unabridged economic ecosystem.

### **The impact of Fintech on economic development**

Fintech has fostered a social revolution since its inception, and new technologies have introduced substantial positive and negative changes in the banking and the financial sectors.

#### *Positive impacts*

The benefits of Fintech are the causes behind its dramatic expansion, and have been of boundless influence to economic development. Fintech has facilitated financial inclusion through an array of financial features such as payments, lending, savings, insurance, and investment.

First, Fintech has enabled a wholesale restructuring of financial services, enabling their extension to billions of people. This financial inclusion has been important in improving the lives of those who have attained access to financial services. Fintech has provided them with access to financial products and services, easing their day-to-day lives from planning to managing unexpected emergencies. Arising from increased consumption, people gain opportunities to start or expand business such as e-commerce and e-learning, which promote innovation and entrepreneurship and which are pillars of economic development and prosperity.

This fosters investment in sectors like education or health, and also job creation which avails safe and fair capital into the hands of the people which is empowering society to tackle deep global issues of poverty, income inequality, unemployment, hunger, and even climate change. More affordable capital has enabled individuals and businesses to have greater control over their financial affairs, especially for small business, as Fintech has opened up opportunities such as crowdfunding platforms. More traditional means of attaining loans requiring direct

engagement with clients, their credit records and transactional histories, and other such inefficiencies of traditional banking, have been overcome.

The globalisation of financial services has provided the chance to 'level the playing field' to developing and emerging economies with that of more advanced economies, as financial services are now more widespread. The most well-known success story in Africa is that of M-Pesa, the mobile money product of Safaricom, launched by Vodafone in 2007. In under five years, payments made via the mobile platform surpassed 43 per cent of Kenya's GDP.<sup>21</sup> The story is similar for most African states where Fintech has been introduced especially mobile money which does not require a huge smartphone penetration like other digital economies. In Uganda, the value of mobile money transactions during 2020 was 67.51 per cent of GDP.<sup>22</sup> This also allows for more exports and job creation, as well as increased business activity which all lead to increased taxes which higher government expenditure in other sectors and areas like road construction and health facilities.

The largest Fintech sectors in Uganda are in banking infrastructure, investment and savings, lending, and its markets.<sup>23</sup> This is evidence of Fintech overcoming the inadequacies of the banking sector and improving personalisation of financial services to the disadvantaged persons in the community like women, the poor, unemployed, persons living with disabilities, persons living with HIV and other vulnerable people to access services like lending, insurance and investment. With the development of information technology, Fintech has enabled the virtualisation of financial services making it accessible to the informal sector and to the financially illiterate.

Fintech has had a positive effect on economic development because of its impact on infrastructure since Fintech is run by reliable networks and stable electricity, the need of supportive governance policies which leave no room for unbearable bureaucracy and corruption, and principally its effect on the business ecosystem.

#### *Negative impacts*

Fintech can have an adverse impact on economic development in aspects like payments and can undermine an economy's



financial stability. With the surge in Fintech developments, this innovation in information technology has also opened the door to new unethical practices including cyber threats and hacking. These practices, unregulated and uncontrolled, put the stability of payment, settlement and financial systems in question, and these acts of theft are detrimental to the economy and a danger to people's monetary wellbeing. It makes consumers vulnerable to data loss, and to issues of data privacy where data may be used without a user's knowledge and consent.

Fintech is often disruptive to traditional frameworks and has systematic impact through key transformational mechanisms, such as the disintermediation of incumbents, disaggregation of financial services and decentralisation of networks. These effects, along with Fintech's potential to fundamentally alter forces of competition, market dynamics, to expand financial inclusion and increase consumer rights along with changes to many other areas, can strengthen or weaken overall financial stability. This is a subject of concern to financial regulators with their mandates overseeing critical market infrastructures and mission of protecting the stability and integrity of global financial systems.<sup>24</sup>

The question of financial stability also illustrates risks associated with Fintech. Fintech opens consumers and businesses to new risks, exposing them to the possibility of losing assets and investments from its volatile nature, still-developing regulation and the prospect of chain reactions and adverse market developments. These include liquidity shortages or flash crashes, and issues of market integrity (i.e., market manipulation, or criminal abuse, money laundering, tax evasion, the purchase of illegal goods or services, operational failures, insolvency or malpractice). Such issues have been the subject of debate including the recent downfall of cryptocurrency actor Sam Bankman-Fried.<sup>25</sup>

### Regulation

The regulation of financial services is critical, and, like any other financial service, Fintech needs regulation to protect its stakeholders. The global financial crisis of 2007-2008 was a powerful reminder that inadequate regulation and supervision in countries at the core of the world's financial systems can have global repercussions, the crisis proving to be

a clarion call for strengthening international regulatory cooperation.<sup>26</sup> Fintech currently is not wholly regulated as its technologies have pushed the boundaries of existing regimes, but with its rise regulatory responses have been initiated. Robust Fintech-related principles and standards are clearly called for. It is crucial that boundaries are set for all players, so as to establish the bounds of responsibility, and to mitigate risks to consumers and to investors.

Regulation should address all risks associated with Fintech from questions of governance, data protection, artificial intelligence, the perimeters of regulation, consumer protection, cybersecurity, financial stability, competition and risk management. The laws created need to be stringent on matters of compliance, extending to registration and timely regulatory reporting to enable real-time monitoring of emerging risks. Transactions must be monitored to limit fraud and market abuse, and this requires end-to-end validation, but must also ensure safety of the data through encryption.

It is also vital to establish a supervisory agency to oversee the administrative, managerial and operational procedures of Fintech to ensure compliance, and also have regulatory technology for the financial institutions to have a real regulatory presence, and not merely based on ethical considerations.

### Recommendation

The Covid-19 pandemic showed cracks in the financial sector, as financial institutions were strained and faced ineffable risks due to absence of precedence and adequate information at a time of economic turbulence.

These long- and short-term risks indicated a crisis and had a direct implication to asset and capital management. The principal risk financial institutions faced was a liquidity risk, which is a risk addressed through the holding of liquid assets in instances of extensive withdraw of deposits which exceeds the financial institution's liquid assets which in turn requires selling its illiquid loans putting it under great pressure.<sup>27</sup>

### Conclusion

Fintech has the potential to transform financial services and expand its inclusion, improve the running of the financial system,

and, ultimately, to promote economic development. It is important that all stakeholders learn from the experiences of the financial crisis and other mishaps and work towards making better financial products and services available, with broader aims of humanity, such as sustainable development to benefit consumers, businesses, markets, and the economy.

In conclusion, technological progress has often improved the welfare of the people, and further developed economies. Fintech looks set to be the next great leap forward, and could be the economic hallmark of the 21st century. From this, it is important to deal with the risks and issues to minimise the negative aspects, and for once provide a systematic economic revolution accompanied with hope and good for humanity.

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# How can developments in Fintech impact upon economic development and how can it be regulated?

## Introduction

Fintech is recognised as one of the most important recent innovations in the financial industry and is evolving at a rapid speed, driven in part by shared economies, loose regulation, and the growth in information technology. Fintech is reshaping the financial industry by disintermediating financial services and working to reduce financial exclusion, poverty rates and income inequality to drive economic development forward. The UN Sustainable Development Goals 2030 recognise the importance of Fintech and the potential it holds.

This essay aims to investigate how developments in Fintech can affect economic development and how such developments should be regulated. The essay uses a three-fold approach in achieving this aim. First, it provides a detailed background on Fintech and its rise. Second, it establishes how developments in Fintech can impact economic development with particular focus on Africa. Third, it provides a general response of how Fintech should be regulated to support economic development. Finally, a conclusion will be drawn.

## Background

Fintech, or financial technology, refers to new technologies that change and disrupt traditional ways of transacting as it seeks to improve and automate the delivery of financial services. Put simply, Fintech applies advanced technology to improve financial activities.<sup>1</sup> In Africa, Fintech is a growing sector full of opportunities, thriving in Nigeria, Egypt, South Africa, and Kenya. This expansion has found fertile ground because, among other things, fully 66 per cent of Sub-Saharan Africa is unbanked, providing

environments ripe for Fintech startups to expand into the region.<sup>2</sup> One of Africa's most meteoric Fintech success stories is M-Pesa. M-Pesa was launched in Kenya in April 2007<sup>3</sup> and has revolutionised the financial services landscape by providing a platform for performing essential financial transactions such as the deposit and withdrawal of money, money transfers, bill payments and the purchase of airtime. Disrupt Africa<sup>4</sup> revealed that Fintech investments were among the most popular in Africa, with 39.7 per cent of total funds attracted. South Africa, Nigeria and Kenya remain the three main markets for Fintech, with 141, 101 and 78 active ventures respectively, accounting for fully 65.2 per cent of Africa's Fintech startups.

Notwithstanding the impressive milestones reached by Fintech in Africa, a major concern is how daunting it is to appropriately regulate Fintech innovations. Recent innovations fit only poorly into the existing regulatory framework and challenge regulators in their work. The adequacy and timeliness of such legal responses determine not only the viability of Fintech solutions but also its potential impact and capacity to contribute to positive social change and economic development.<sup>5</sup> In this essay, economic development is taken to mean the process by which a nation improves the economic, political, and social wellbeing of its people.<sup>6</sup> Contrary to popular belief, economic development is not economic growth. Economic growth is a phenomenon of market productivity and rise in GDP whereas, economic development is broader. Development refers to an increase in citizens' quality of life, often measured using the Human Development Index (HDI).<sup>7</sup> Against this background, we look to how Fintech developments impact on the quality of life of people in society.

## The impact of Fintech on economic development

The Fintech ecosystem can be broadly divided into eight sectors: payments and money transfers; digital banking; digital wealth managers including robo-advisors; capital markets including algorithmic trading, high-frequency traders, and market analytics; lending including P2P and marketplace lenders; equity crowdfunding; InsureTech (innovations in the insurance industry); and PropTech (innovations in the property and real-estate industry). The emerging technologies that are being used across the above Fintech segments include distributed ledger technologies (DLT) such as Blockchain, biometrics, quantum computing, cloud computing, open-source computing and APIs, Big Data analytics, machine learning and artificial intelligence (AI), the Internet-of-Things (IoT), and cybersecurity among others.<sup>8</sup>

Robo-advisors embedded into Fintech applications, for example, are online services that use algorithms to perform investment tasks previously carried out by a human financial advisor. A typical robo-advisor asks questions about financial situations and future goals through an online survey, then uses the data to offer advice and automatically invest for a person.<sup>9</sup> A research policy brief in 2019 conducted by Facundo Abraham et al showed that there were only six robo-advisors in Africa.<sup>10</sup> One example is the Sygnia robo-advisor which has been a game changer for South African investors. This internet-based financial advisory system evaluates a person's current position and recommends an appropriate mix of investments suited to their unique personal circumstances. The implementation is facilitated by instant access to application forms and an easy-to-follow investment process.<sup>11</sup> Such developments in Fintech applications can serve as a perfect introduction to investments for young investors, and as a simple financial planning tool for people involved in SMEs and those who want to save. This premise draws credence from the fact that most banks in Africa, unfortunately, do not teach the how's and why's of investing. Instead, they simply educate potential customers on how to buy products. For the next generation of young investors this may no longer be enough as they want to get more from their money and know what they are investing in.<sup>12</sup>

Robo-advice technology highlights a potential benefit in terms of financial

inclusion in Africa. This is primarily because of its accessibility. Instead of having to set an appointment with an advisor and meet at a physical location, robo-advisors offer clients financial advice and investment management at any time, from anywhere with an internet connection.<sup>13</sup> As such, robo-advisors can increase convenience and reduce the costs of financial advice. In contrast to human advisory firms, robo-advisors can save on fixed costs such as the salaries of expensive financial advisors.<sup>14</sup> In addition, they can help reduce some behavioural biases that are common in human financial advisory services. Human advisors can be corrupt or subjective, can favour products for which they receive commission, may have a limited capacity to monitor several assets simultaneously, and may focus on domestic securities, among other biases. Thus, by transferring the decision-making process from humans to automated algorithms, robo-advisors may be able to mitigate some of these biases and corruption activities.<sup>15</sup>

Proptech is another development borne of Fintech. Proptech is any technology-based innovation or platform that makes planning, managing, developing, buying (selling or renting) and the use of real estate more efficient, cheaper and easier at any stage of a building's lifecycle.<sup>16</sup> Even though Fintech and Proptech are two distinct industries, they overlap at certain intersections, eg, the funds required to transact in real estate. With limitations such as physical deterioration, illiquidity and legal regulations, the incorporation of Fintech innovations makes the real estate sector more fluid for investment purposes.<sup>17</sup> As such, Fintech developments such as DLTs being used in Proptech can resolve Africa's deeply-rooted land registry issues by changing the manner in which ownership of property is recorded and transferred. Seso Global and Landlayby for example are spearheading DLTs in Africa. Seso Global, a DLT-powered mortgage registry and real estate platform has successfully piloted their platform in Nigeria and recently developed South Africa's first Blockchain-based property registry in partnership with the Centre for Affordable Housing Finance in Africa (CAHF). Additionally, Landlayby, a Kenyan startup, has developed a Blockchain-based property registry in Kenya that helps eliminate cases of multiple ownership claims and fraud.<sup>18</sup> Such Fintech innovations can impact upon economic development in Africa by

optimising ways in which the continent develops, manages and uses buildings as well as improving market efficiencies, specifically around the availability of information and high cost of development and valuations. This will provide developers and investors a more enabling environment and may offer critical new tools to African real estate markets.<sup>19</sup>

Crowdfunding is also a segment of Fintech in which the public communicates through the internet to raise funds in support of activities initiated by other organisations and individuals.<sup>20</sup> This use of Fintech can positively support economic development programmes in a number of ways. Since it was founded in 2015, South Africa-based donation crowdfunding platform, Backabuddy, for example, has seen over 13,000 crowdfunding initiatives launched to support those raising funds for medical expenses or community projects such as preserving cultural artifacts.<sup>21</sup> Many architectural treasures in Africa are crumbling from a lack of funds to maintain them; Fintech crowdfunding applications are one way to raise the finances needed for the restoration and maintenance of these sites thus saving Africa's heritage.

Another subset of Fintech, Insurtech is the technology behind the creation, distribution and administration of digital insurance. Its various guises include apps, wearables, and claims-processing tools, online policy handling and automated processing. Its applications are transforming the ways in which insurance is bought and sold, how it assesses and quantifies risk, and how consumers understand and manage their risk exposure.<sup>22</sup> Kenya-based Pula, for example, is making waves in Insurtech, providing small-scale farmers with agricultural insurance products to offset the risk of extreme weather conditions, improve their farming techniques and boost their revenues. Since its start in 2015, Pula has assisted 4.3 million farmers across 13 African markets.<sup>23</sup> Insurtech is able to meet the demands of new generations seeking new and more personalised products, using artificial intelligence to analyse data and develop former models into new products that offer greater advantage to the sector.

With respect to important sectors in payments and with money transfers, Fintech startups in Africa such as Flutterwave let individuals make domestic and international payments using DLT technologies, facilitating

trade among African entrepreneurs and making it possible for global merchants to process payments.<sup>24</sup> Barter is another Fintech in Africa that provides for an online payment method, enabling users who do not have credit cards to create virtual cards to carry out transactions.<sup>25</sup> Such innovations support African businesses online including EdTech platforms like Tuteria in Nigeria,<sup>26</sup> which administers online educational services, making it easier for young people to access such services with virtual cards to make payments.

Digital or mobile banking is playing a key role in developing Africa's economies. Mobile banking is acting to expand financial inclusion by effectively bringing the 'unbanked' into the system. Mobile banking allows countries in Africa to bring financial services to the masses in a cheap, almost immediately accessible way, spurring more equitable economic development through the proliferation of mobile phones using a simple banking program. The mobile banking revolution has also created greater financial stability for African families. A 2014 report study found that people using M-Pesa were better able to handle major hits to their income levels such as a poor harvest, a job loss or a failing business, without having to curb their household's consumption levels. The primary way people weathered these storms was by getting help from family and friends with funds sent over M-pesa or by working as a mobile agent for the unemployed.<sup>27</sup> Mobile banking has also made public services more easily accessible, for example in paying electricity bills which can now be done via mobile phone.

Last but not the least, Fintech is opening up access to capital markets, which development may also support Africa's economic development. Until a few years ago, most Africans could neither afford the brokerage services nor find it convenient to trade on the capital markets. With the advent of mobile app-based services, more people can buy, sell, and trade stocks and commodities in a matter of a few minutes. Fintech innovations in the capital markets are not just confined to mobile apps. Other technologies are being implemented through the integration of AI, data analytics, and machine learning-led processes which are influencing the speed of operations, the accuracy of data published, and improving security features against data theft and fraud perpetrated in the markets.<sup>28</sup> Such Fintech

developments are providing safer, speedier transactions and error-free processing.

### Fintech regulation for economic development

Imperative to the Fintech regulatory agenda is how to regulate it effectively without stifling innovation. Too much regulation can stymie further developments; too little will result in harm to consumers and possibly to the financial system at large. It is a fine balance, but the focus needs to be not only on how much one regulates, but also on what is regulated and how. Fundamentally, regulators can promote innovation and offer better opportunities to industry participants and consumers by embracing a data approach to regulatory regimes. Focusing on the data and metadata surrounding new technology such as data relating to an investment in new technology and innovation can help regulators make accurate predictions regarding what the next 'big thing' is likely to be.<sup>29</sup> Knowing the direction of the industry gives an idea on how to approach and regulate it.

Regulators must understand that they are not likely to have a final (one size-fits-all) regulation or regulatory regime. Rather, they should approach regulations as an open-ended process that will keep evolving. Regulators need to abandon a fixation on finality and legal certainty and embrace contingency, flexibility and an openness to new ideas.<sup>30</sup> Some of the means of embracing a collaborative, flexible and digitised regulatory regime are through the use of sandboxes and regulatory technology. 'Sandboxes are virtual environments used to test and examine the impacts of innovative new processes or technologies in isolation.'<sup>31</sup> A regulatory sandbox has the potential to create beneficial competition in the interests of consumers by reducing the time of getting innovative ideas to the market, enabling access to finance for innovators, and encouraging more innovation.

Other initiatives in Fintech regulation in Africa that can be adopted are Fintech hubs and Fintech events. Fintech hubs are specialised units within financial authorities, dedicated to Fintech issues.<sup>32</sup> These may function as a single point of contact to help Fintech firms navigate the regulatory and licensing framework, to study Fintech developments, to act as an internal resource centre, and to disseminate information to

the public. Fintech events can be organised by Fintech units and can include seminars, conferences and hackathons. The objective of such events can be to foster the development of solutions to specific challenges such as regulatory reporting. Actively collaborating with Fintech, RegTech, SupTech firms could also help financial authorities more easily identify impediments to innovation, such as regulatory hurdles or difficulties presented by current practices (eg, lack of harmonised data standards) and IT systems. For instance, given that most innovation is based on intensive use of digital data, an area that could pose obstacles is data management and data sharing regulations, which could prohibit the use of cloud computing, shared utilities and other innovations. IT regulations that are not technology neutral may also present challenges.<sup>33</sup> Collaboration and engagement help in the identification of such challenges and consultations about possible solutions.

In conclusion, this essay has given a synopsis of the growth of Fintech in Africa and has demonstrated how developments in Fintech have impacted economic development in Africa. Even though the words 'Africa' and 'innovation' are not often found in the same sentence, however, the narrative is changing in Africa, where much is happening. Fintech has democratised and revolutionised the financial services industry. It has allowed new Fintech startups to carve out a significant slice of the pie for themselves by offering innovative solutions that upend the traditional customer experience and increase African capabilities all in an economic development endeavour.

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# How can developments in Fintech impact upon economic development and how can it be regulated?

*'If you make customers unhappy in the physical world, they might each tell six friends. If you make customers unhappy on the internet, they can each tell 6,000 friends.'*

Jeff Bezos, Founder of Amazon

## What is Fintech?

Fintech refers to the provision of banking and financial services using cutting-edge digital and online technologies.<sup>1</sup> The International Organization of Securities Commissions (IOSCO)<sup>2</sup> identified eight categories that make up what is today referred to as 'Fintech'<sup>3</sup>: Fintech has made advancements in the areas of payments, insurance, planning, trading, investing, distributed ledger technologies (DLT), crowdfunding,

data and analytics, and security, among other areas.<sup>4</sup> The concept is best defined as finance services delivered through new technologies, and reaching every aspect of the financial sector.<sup>5</sup> Because it underpins so many different businesses, the entire Fintech industry is positioned at the centre of the fourth industrial revolution.<sup>6</sup>

## The evolution of Fintech

An earlier technological era was ushered in with the introduction of the telegraph and Morse Code.<sup>7</sup> With these technological advances, in 1918 the US Federal Reserve Bank launched the Fedwire Funds Service to send money between all 12 Reserve Banks via telegraph.<sup>8</sup> By 1967, a Barclays

Bank branch in Enfield, north London, unveiled the first of six automated teller machines (ATMs), another ground-breaking invention in Fintech.<sup>9</sup> In 1973, 239 banks from 15 countries came together to form the Society for Worldwide Interbank Financial Telecommunication (SWIFT).<sup>10</sup> In the more recent evolution of financial technologies, one of the first Fintech companies was PayPal, born around the same time as the first cryptocurrency was founded in 2009 following the creation of blockchain in 2008.<sup>11</sup>

### The impact of Fintech on economic development

More than economic growth, economic development combines growth, structural changes to production, technological advancement, social, political, and institutional modernisation, and aims to see significant advancements in human welfare.<sup>12</sup> Among the indicators of economic development are the Human Development Index (HDI), the Human Poverty Index (HPI), the Gini Coefficient, the Gender Development Index (GDI), and the Balance of Trade Physical Quality of Life Index (PQLI).<sup>13</sup> Fintech challenges the corporate titans that dominate conventional financial sector methods. This revolutionary movement has paved the way for technologies that were unthinkable until recently but which have now led to breakthroughs that simplify our lives.

Fintech companies are important in promoting a favourable cost of living which supports economic development. In a July survey of approximately 4,000 people conducted by open banking network Plaid, 83 per cent of respondents cited the cost of living as their primary economic concern.<sup>14</sup> Over the next six months, an average 72 per cent of British consumers anticipated managing their finances digitally.<sup>15</sup> According to 41 per cent of respondents, Fintech helps people to better understand their finances so they can manage their money more effectively.<sup>16</sup> In the United States, the development of numerous personal finance, budgeting, and online banking applications has allowed users to track monthly expenses efficiently.<sup>17</sup>

Fintech is important in poverty alleviation. It can help boost economic development and reduce poverty by improving financial development, inclusion, and efficiency. In

2020, Sub-Saharan Africa accounted for the majority of mobile money transactions, with 27.4 billion transactions totalling US\$490bn across 159 million active mobile-money accounts.<sup>18</sup> In Senegal, for example, 71 per cent of adults reported having used mobile money in the previous 30 days, notwithstanding almost half reported significant difficulties reading and writing, or that they were completely unable to read or write.<sup>19</sup>

Fintech also plays a significant role in political development; another component of economic development. Some Fintech companies have played an important role in delivering free and fair elections. A case in point is the Philippines where, in preparation for the upcoming general elections, public advocacy campaigns have been introduced on the responsible use of online payment platforms.<sup>20</sup> Cryptocurrencies have been a tool for mobilisation during the electoral process too. The Federal Election Commission (FEC) that oversees congressional and presidential campaigns allowed cryptocurrency contributions to political committees.<sup>21</sup> State and local elections are a different story, with campaign finance laws varying greatly across the country. Laws are changing rapidly however. The US State of California for example recently overturned a 2018 ban on cryptocurrencies for campaign contributions.<sup>22</sup>

Fintech companies and technologies have played a great role in promoting a high standard of healthcare which is an important indicator of economic development. A healthy population means higher productivity and may result in higher per capita income.<sup>23</sup> Fintech improves the healthcare system by reducing inadequacies associated with payment plans through distributed ledger technologies, machine learning, artificial intelligence, mobile payments, and robo-advisory investment devices.<sup>24</sup>

### How Fintech should be regulated

As technology advances, so do those attempting to manipulate the system. Following the 2007/2008 global financial crisis, regulators attempted to strike a balance between the goals of innovation and growth.<sup>25</sup>

Fintech can be regulated through the use of 'sandboxes' to develop a legal framework



for adoption. A regulatory sandbox allows live, time-bound testing of innovation under the supervision of a regulator generally without the penalties incumbent on introducing a new product to the public via normal channels.<sup>26</sup> It is typically summarised in text and published.<sup>27</sup> Financial services, technologies, and business models can be tested under a set of rules, supervision requirements, and appropriate safeguards. Regulatory sandboxes lower the cost of innovation and entry barriers, and allow regulators to gather important insights before deciding whether further regulatory action is required.<sup>28</sup> The first regulatory sandbox was launched in the UK in 2015, sparking widespread interest among regulators and innovators worldwide.<sup>29</sup> In Uganda the central bank was given the mandate to establish and manage a regulatory sandbox by virtue of enactment of National Payment System 2020. The central bank is tasked with creating a regulatory sandbox framework to govern how a person with restricted access to the payment system ecosystem can test innovative financial products or services without obtaining a licence.<sup>30</sup> Accordingly, through the National Payment System (sandbox) regulations 2021 and National Payment System regulatory framework 2021 provide for the procedure and requirements to operate a sandbox. However, the regulation according to the Act seems to target only payment systems leaving out insurance, planning, trading, investing, and distributed ledger technologies which are used by Fintech companies.

The regulation of Fintech should be proportionate to the economic rights of people. States parties to the International Covenant on Economic, Cultural and Social Rights enshrines the right to work, which includes the right of everyone to earn a living through work that he or she freely prefers or accepts, and mandates states to take steps to protect this right.<sup>31</sup> In India, citizens have rights to practise any profession, or carry on any occupation, trade or business.<sup>32</sup> The state has a right to enact any law, in so far as such law imposes reasonable restrictions to promote the sovereignty and integrity of the state, its security, friendly relations with foreign states, public order, decency, morality, or in relation to contempt of court and defamation.<sup>33</sup> This position was reiterated in the case of *Internet and Mobile Association of India v Reserve Bank of India*.<sup>34</sup> As the Court

determined, the circular violated the rights guaranteed by Article 19(1)(g) and violated the proportionality doctrine.

## Conclusion

Over a span of decades, development in Fintech has been sporadic. Negatively and positively, Fintech has had significant impact on economic development. Despite this development, the Fintech sector needs to be rigorously regulated because it influences lives of many people.

## Notes

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# How can developments in Fintech impact upon economic development and how can it be regulated?

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## Introduction

In an era dubbed 'digital', it is perhaps retrogressive for a country not to prioritise technological advancement. Technology is rapidly transforming world economies. Perhaps unsurprisingly, giant economies such as those of the US, China, the UK, Norway, and Germany have made great strides in technological development. Data points to a positive correlation between technological advancement and economic development.<sup>1</sup> One area of technology in which there has been heavy investment is financial technology – 'Fintech' for short.<sup>2</sup> This essay evaluates the impact of Fintech on economic development. It begins with analysing key terms to contextualise the discussion. Following this outline, the essay shows how economic development results from Fintech. We then highlight the challenges facing the current Fintech regulatory legal framework. The essay closes with recommendations of how Fintech can be appropriately regulated to balance

the benefits of innovation and economic development with maintaining financial stability and striving for consumer protection.

## Fintech

Fintech refers to the use of technology to automate and improve processes in financial services.<sup>3</sup> Recent developments include mobile money, peer-to-peer or marketplace lending, robo-advice, insurance technology (insurtech) and crypto-assets.<sup>4</sup> It is an industry where technology-enabled firms offer financial services and entities provide technological services to financial institutions.<sup>5</sup> A Fintech firm is one that specialises in offering Digital Financial Services (DFS) to consumers, or enables other providers to offer DFS. It entails the development of technology solutions in a business set up to enhance financial service provision in terms of effectiveness and efficiency. For example, person-to-person payments transfer funds from one

personal account to another, using either (in the United States) the Automated Clearing House (ACH) system or debit/credit cards. Providers of this service include banks and technology firms such as PayPal and Facebook. ACH transfers and their equivalents worldwide cost less to process than credit card and debit card transactions as they bypass assessment fees charged by card networks.<sup>6</sup>

### **Economic development**

Economic development is defined as ‘the process of improving the economic wellbeing and quality of life of a nation, region or local community.’<sup>7</sup> It is a more expansive term than economic growth. Where the latter is measured by a country’s GDP and income per capita, the former reflects qualitative indices such as life expectancy, knowledge and raised standards of living.<sup>8</sup> Thus, while economic growth is simply an increase in aggregate output, economic development is concerned with quality improvements, the introduction of new goods and services, greater entrepreneurship and the dynamics of innovation.<sup>9</sup>

### **Fintech and economic development**

Fintech and economic development are linked. It is not mere happenstance that, in countries where Fintech is more highly developed, the country’s economic development is correspondingly higher. One such country is the United States where, in June 2016, the Financial Oversight Council indicated that digital lenders (an aspect of Fintech) generated significant US growth in 2015, with estimates suggesting that between US\$18–36bn in loans were originated during the year, and a cumulative US\$40–50bn in loans have been originated to date.<sup>10</sup> For Africa, the World Bank attributed the estimated 3.8 per cent of global GDP to productivity increase arising from mobile technologies in 2014 and further estimated a ten per cent growth by 2025.<sup>11</sup>

### **Reduced barriers for business startups**

The first way in which developments in Fintech enhance economic development is that Fintech reduces cost barriers for new and/or smaller entrants in the business sector.<sup>12</sup> For example, crowdfunding provides an alternative way for businesses to obtain

funds at a lower cost or in a way that was not traditionally possible. In addition, Fintech eases business startups as fixed costs such as startup capital, physical infrastructure, or heavy-duty machines are eliminated. Through apps, for instance, one can run a mobile money business with only a smartphone in lieu of hiring experts in banking as employees. This in turn means that many people will be involved in the venture which translates into increased money circulation and an improved standard of living, especially in developing countries.

### **Financial inclusion and enhanced participation in economic activities**

Secondly, Fintech contributes to economic development by promoting financial inclusion for the traditionally ‘unbanked’ sections of the population – those not holding bank accounts. Through Mobile Money, for example, this segment of the population has now been able to participate in the mainstream economy through convenient and efficient financial transactions, thereby extending financial empowerment to more people. In addition, through Fintech, the reach of small-scale enterprises has been enhanced. It is a feature of today, that a person in one part of a geographical location can do business with another in another through a Fintech platform.

### **Job creation**

Fintech also contributes to economic development by creating employment. According to author Terrance Dove, ‘[t]he technology revolution happening in the finance industry will mean more job options available for STEM [science, technology, engineering, and mathematics] professionals.’<sup>13</sup> With more people earning an income through employment, governments’ revenue bases are able to grow thereby positively impacting their economy.

### **How Fintech should be regulated**

As noted by Arner et al, ‘[t]echnology is transforming finance around the world at an unprecedented rate, offering new opportunities but also raising new risks.’<sup>14</sup> For example, a report by online news outlet the Times Group of Malawi, indicated that more Malawians have fallen prey to online

fraud due to Fintech.<sup>15</sup> This necessitates development of a regulatory framework that not only is conducive to innovation but also ensures market stability and consumer protection. According to Arner et al, many jurisdictions have adopted a laissez-faire approach to regulation where the state does nothing to regulate Fintechs.<sup>16</sup> However, as observed by China, a lack of visibility and regulatory market comprehension is adverse to consumer protection, and the path is to adopt a stricter yet balanced comprehensive regulatory framework that is pro-innovation.

While this essay advocates for no single regulatory framework, it proposes the adoption of regulation technology (RegTech) to regulate Fintech. In an ever more digital world, it is best not only to dwell on models that seek to regulate human behaviour but also those that seek to oversee automated processes.<sup>17</sup> RegTech describes the use of technology, particularly information technology (IT), in the context of regulation, monitoring, reporting, and compliance.<sup>18</sup> An example of RegTech is machine learning, an artificial intelligence computer system that automates predictions.<sup>19</sup> Through machine learning, banks have been able to produce models (applications) specifically for natural language processing, risk and portfolio management, customer experience and behaviour, fraud detection, and anti-money laundering. These have greatly reduced the costs of hiring a specialised workforce to do these tasks, but have also ensured efficiency in Fintech regulation. Yet for developing countries, we suggest a gradual transition from pro-innovative stricter regulations to RegTech to maintain the balance between innovation and consumer protection

## Conclusion

Fintech is an increasingly indispensable component of world economic development. It offers numerous possibilities that would otherwise be unavailable in the traditional finance industry. It is these possibilities that have significantly spurred economic development. However, while reaping the desired fruits of innovations in Fintech, the same has been found to have given rise to previously unknown risks. This has necessitated the development of regulations

to balance the need for innovation with consumer protection and market balance. This essay has argued for a transition towards RegTech to efficiently and effectively curb criminal elements in the Fintech industry while encouraging innovation.

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# How can developments in Fintech impact upon economic development and how can it be regulated?

## Abstract

Traditional banking and finance methodologies are rapidly being replaced by advances in financial technology (Fintech). That traditional finance is being eclipsed by new offerings – from artificial intelligence (AI), distributed ledger technologies (DLT), peer-to-peer lending offerings, robo-advisors, crowdfunding and other developments – is for many reasons as the new technology is faster and more convenient making the more centralised data and resources of banks seem antiquated. One of the most important reasons for this rise is that of globalisation, spurred on in part by the 2007/2008 Financial Crisis. The lack of transparency, a flawed but widely-accepted faith in the self-correcting nature of markets, and a belief in the ability of financial institutions to police themselves, had been factors leading to the crisis, which among other things sparked a seismic shift in the delivery of financial services.

This essay begins with a discussion of what Fintech entails, discusses the relationship between Fintech and economic development, and closes with suggestions on regulatory measures.

## Introduction

Fintech is the use of technology to deliver financial services and seeks to bridge the gap between traditional banking and new methodologies to meet evolving consumer needs. Until recently, the banking sector was predominant in the delivery of financial services across investment options, savings and loans. With new technologies in past decades came innovations such as automated teller machines (ATMs), credit and debit cards, and the internet. It was the 2007/2008 Financial Crisis, however, that prompted the introduction of stricter regulations, higher

finances and greater barriers to entry in the banking industry coupled with declining consumer confidence in the banks which stymied banks from further innovation compared to what was offered by increased digitalisation from new entrants.

Technology companies, many of them startups, saw this gap and sought to create new technologies better able to meet growing consumer needs in more efficient and convenient, cheaper, ways using digital data and mobile technology.

## The relationship between Fintech and economic development

According to the Global Findex Database 2021 Reports, about 1.4 billion adults remained without access to banking facilities (unbanked). This meant that no-one in the reporting household had a bank or credit union account. The impact of the Covid-19 pandemic on the financial sector worldwide however served as a catalyst for the expansion of financial technology (Fintech). In developing countries, about 40 per cent of people who have made a digital payment did so for the first time during the pandemic. It is estimated that by the end of 2022, the annual growth rate of Fintech had reached 24.8 per cent, nearly a quarter of all people.

A major reason for Fintech's rapid growth is the increased accessibility it affords users regardless of their financial status, thereby allowing people without regular incomes or a fixed residence to build wealth through digital savings, loans, budgeting tools, and investments without the barriers found in traditional banking. For instance, M-Pesa in Kenya has helped raise about two per cent of the Kenyan population out of poverty. The impact of Fintech on economic development cannot therefore be overemphasised as it is a major means to reach those without access to

banking, whether from remote geographical locations, illiteracy or financial hardships. This expansion has also developed modern economic opportunities which has helped to close the gender gap from nine down to six per cent in account ownership in developing countries.

Another impact of Fintech on economic development is the transformation of loan offerings. With the creation of systems that help to compare credit card loans such as on peer-to-peer lending platforms or crowdfunding apps, information inequalities are reduced and funding can be raised more cheaply both of which can assist in applications for home mortgages and other needs. As a result, the barriers that existed with traditional banks for individuals without the requisite paperwork or collateral security have been reduced or removed – new avenues have been opened up. Additionally, Fintech has revolutionised traditional credit card lines by opening up opportunities that would otherwise be unavailable from poor credit scores through methods offering alternative means to determine a person's creditworthiness such as their employment history.

Economic development has increased from increased investment in Fintech seeing about US\$300bn invested worldwide at the end of 2022. This increase has also been fomented by robo-advisors that allow investors with little or no experience to initiate trades, study investment reports and manage a portfolio. Although it has been argued that Fintech and its attendant disruption has and will continue to displace traditional banking jobs, it also brings employment opportunities, arguably sufficient to offset any displacement.

### Suggested regulatory measures

Given the progressive nature of Fintech, a blanket approach to its regulation will yield few results. Rather, regulatory measures must be tailored to adapt to the nature of the particular Fintech model. The following suggestions are categorised into three based on stakeholder analysis: Fintech companies, consumers and the government.

#### Fintech companies

More than a quarter of all Fintech companies have experienced a security breach, a factor behind the need for more elaborate regulatory mechanisms. Cryptocurrencies

have also been the Fintech payment method most susceptible to scams, with over US\$1bn reported stolen in the 18 months between January 2021 and June 2022. Using DLT protocols which by their nature provide for a certain level of network security, the cross-border nature of cryptocurrencies and their inherent anonymity has made them challenging to regulate or police. Rather than depending on centralised data structures with traditional banks and their record-keeping methodologies, a network of decentralised data systems connected to – and dependent on – the users is used. Transactions are then processed through encrypted network tokens which could be in the form of any digital asset to incentivise network actors to validate network transactions as for example, used by Bitcoin. Behind this are smart contracts which are code containing defined transaction rules that are automatically enforced when predefined conditions have been met. Agreement is reached through a private key which functions as a signature and is a personal cryptographic identification password.

As cryptographic systems are designed to be transparent and leave data trails of personal and business transactions, however, while the DLT networks are not yet fully anonymous, the privacy of network actors may be breached because its decentralised nature enables transactions to be viewed live by actors with a personal node. As such, if hackers are able to detect a security flaw or identify vulnerabilities on the Blockchain network where a smart contract is operating, they can steal money from users without being detected.

From this, it is important to develop tools to monitor transactions. The tendency for a security flaw to exist in the creation of a DLT increases as they develop, thereby increasing the chances of identifying vulnerabilities by hackers. The biggest challenge, however, lies in the ability of hackers to engage in fraudulent activity undetected, given that even fraudulent transactions cannot be altered. If a network actor can have only one personal and distinct digital address and private key required for every transaction and especially used during 'signing' smart contracts, hackers could more easily be detected. As they are performed directly between users without the need for a third party, these transactions can incorporate cryptographic tools which verify the identity of both parties before the transactions can be

completed. This will then allow transactions to be traced back to the accounts, which may be frozen in the interim and reversed without altering the DLT. Moreover, the privacy and transparency, characteristic of cryptocurrency, will be maintained.

Secondly, the use of AI to develop information about a user's payment history to detect unusual transactions and verification systems that help to identify fraud can be better developed to identify suspicious transactions. If inbuilt into the distinct digital addresses of network actors, AI can be developed to track transaction histories and even a daily transaction limit determined by the user, such that unusual transactions can be rapidly identified and perhaps stopped. This can also be applied in other Fintech innovations such as peer-to-peer lending platforms and digital mobile apps.

Fintech apps hold consumers' personal and financial information ranging from their addresses to credit card and bank account information targeted by cyber criminals. A tactic employed by hackers is that, rather than launching attacks against individual consumers, they take advantage of vulnerable API endpoints of Fintech companies. This allows them to gain access to users' financial information and exploit it to their advantage. A solution to this is for Fintech startups and established companies, right from launching their apps and software, to hire professional hackers to try to hack into their systems. This will serve to expose vulnerabilities and enable Fintech companies to better secure them before cybercriminals have the opportunity to do so after their launch. Although this might be an additional cost incurred by Fintech companies, the loss that will be borne in the event of fraud and cybercrime by hackers will cost the company much more and therefore should be seen as a necessity rather than a luxury.

### **Consumers**

Ordinary consumers are often the victims of cybercrimes such as phishing attempts, ransomware attacks, password spraying and others. Some cybercriminals use stolen credentials to access consumer accounts on Fintech apps which allow them to steal profiles and other information. A common tactic is the use of API attacks to compromise authentication tokens and other verification methods meant to keep accounts secure. Modern phishing attacks also include

cybercriminals acting as legitimate entities to lure users to share their personal or financial information. To prevent these attacks, consumers need to be alert and informed because it is difficult to protect against user negligence sharing sensitive data with a hacker, through which financial fraud can easily be committed. Money laundering schemes for instance that have been carried out via Fintech apps include cybercriminals misrepresenting themselves or using anonymisation techniques and redirecting funds through fraudulent email correspondence with email parties. The only way to avoid falling prey to such schemes is to not share passwords or other sensitive financial information such as credit card details regardless of how legitimate the imposter may appear.

Additionally, in the event that a user wants to verify the credibility and legitimacy of an entity, the user may first input wrong personal or financial information such as an incorrect password or credit card details and check the outcome. Extra background research such as research on the entity, confirming from verified sources about the legitimacy of those entities among others are also an added necessity to avoid being a victim of such schemes.

### **Government**

It is predominantly IT engineers and experts who write the codes that operate the apps and Fintech software. Fintech functions however transcend technological questions into more complex legal, ethical and economic questions.

As such, in order to create and design Fintech tools that are both user friendly and that protect the users rather than the Fintech companies, laws and policies must be made to ensure that such persons are factored in. This is particularly important as a reason for the decline of traditional banking is the ability of the centralised authority to control the financial resources of the users and profit from it to the disadvantage of the users. For Fintech companies such as Blockchain technology-based companies not to make risky investments as FTX did, leading to its collapse and the loss of billions by users, governments must step in to introduce regulations that make sure such occurrences cannot happen.

## Conclusion

Fintech is rapidly transforming the financial sector and has become a primary contributor to economic development of countries.

However, with its positive impact grows a proportional increase in the risk of more elaborate cybercrime schemes which must be regulated by all stakeholders involved.

# How can developments in Fintech impact upon economic development and how can it be regulated?

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*‘The Fintech industry has the potential to have its biggest positive impact on the lives of the unbanked of this world. And that, in my eyes, is magic in the making.’*

Venture Capitalist Spiros Margaritis

are provided in the form of case studies to illustrate the impacts on economic development. Following this analysis, I then deal with how Fintech should be regulated to take advantage of its benefits and minimise its risks. A conclusion is then drawn.

## Introduction

Fintech is a portmanteau of the words ‘financial’ and ‘technology’. It refers to the combination of technology and finance in the delivery of financial services, increasingly forming the new frontiers of loan schemes, revenue liquidation, payment methods, insurance and wealth creation. It involves an ever-increasing range of new financial sector tools to see rapid changes in the way payments are made, the automated offerings of robot advisors, new consumers and delivery modules with loan schemes, the advent of distributed ledger technologies such as Blockchain, and myriad others.

Fintech has implications for economic development. This refers to a broad range of economic, political and socio-cultural advancements in the standard of living of people. Fintech offers both opportunities and risks for economic development, with the result that governments need to regulate Fintech industries so that the opportunities it presents can be taken advantage of with its risks minimised. This essay analyses the impact of Fintech on economic development. It starts by defining the key terms: Fintech and economic development. Thereafter, it analyses the impact Fintech could have on economic development. In this, we deal first with the positive potential of Fintech; thereafter, the negative impacts are explored as well. With each of these impacts, examples

## Fintech

Fintech ‘refers to digital technologies that have the potential to transform the provision of financial services spurring the development of new – or modify existing – business models, applications, processes and products.’<sup>1</sup> Fintech thus defined is the innovative way of applying technology in designing and delivering financial services. The recent growth of Fintech is linked to the financial crisis of 2007/2008. Following the crisis, banks focused on meeting new regulatory requirements to avoid government sanctions. For a number of reasons, this coincided with the development of new technologies such as Apple iPhones, online marketing and the spread of social media platforms. With the new developments, gaps arose which the formal financial sector was not able to meet. High-tech industries took advantage of this and developed new platforms to deliver financial services. For instance, Alibaba launched its Money Market Fund which became the largest market fund in 2017 standing at US\$236bn with an average customer investment of about US\$600, many of which had never banked before.<sup>2</sup> The growth of Fintech has been accelerated by the Covid-19 pandemic which saw the sector move from a luxury niche to essential services needed by people the world over.



### Economic development

Economic development is defined by economists Michael P Todaro and Stephen C Smith as a ‘multidimensional process involving major changes in social structures, popular attitudes and national institutions, as well as acceleration of economic growth, the reduction of inequality, and the eradication of poverty.’<sup>3</sup> Economic development therefore extends beyond advancement in the economic wellbeing of citizens to their political and socio-cultural needs. From this definition, a distinction is drawn between economic growth and development. Economic growth is a quantitative factor which constitutes an increase in aggregate production that results in growth to Gross Domestic Product (GDP). Economic development, on the other hand, is a qualitative factor inclusive of people’s standards of living. It is characterised by improvements in the economic, political and the socio-cultural needs of people.

### Fintech and economic development

As already suggested, Fintech offers both opportunities and challenges to economic development. Starting with the opportunities, the impacts of developments in Fintech on economic development are discussed below.

#### *Positive impacts*

Fintech promotes financial inclusion through the greater accessibility of financial services to people and communities with limited access to formal financial institutions. It provides a promising avenue to accelerating access to finance particularly in rural communities where much of the population remains largely without banking facilities (and are known as ‘unbanked’). Fintech’s ability to do this is aided by the proliferation of mobile phones and other technologies. Currently, more than two billion people in the world are estimated to be unbanked.<sup>4</sup> Fintech is filling this gap through technologies such as mobile money with Kenya a prime example. In 2007, Kenya’s M-Pesa (mobile money) was introduced. The growth of M-Pesa has accelerated the quick transfer of money from urban centres to rural areas. A study reveals that mobile money has contributed to the reduction of abject poverty in Kenya by two per cent.<sup>5</sup>

In addition, Fintech offers governments some effective mechanisms to respond to economic challenges during national crises. In national emergencies such as health emergencies where physical contact is restricted, the government challenge is to keep the economy in operation. With limitations on physical contact, traditional physical institutions aren’t able to help. Fintech provides an alternative through which financial services can be delivered without physical contact. It opens up ways for government to continue to offer liquidity to firms and people by using online or mobile tools. This came to the fore during the Covid-19 pandemic. In the United States for example, Fintech enabled the US government to deliver its stimulus package to businesses. The result was an increase in mobile banking registrations. In April 2020, statistics showed that mobile banking registrations peaked at 207 per cent higher than previous average daily registrations.<sup>6</sup> Firms were also helped to continue engaging with the financial sector even while physical transactions were restricted.

Fintech can also significantly foster economic development through its support for Small Business Enterprises (SMEs). Financial technology provides an efficient means to mobilise revenue through Fintech-run crowdfunding and peer-to-peer lending platforms, among other examples. The role of Fintech in supporting SMEs is evident in Singapore. Statistics from the Asian Development Bank (ADB) show that 99 per cent of businesses in Singapore are SMEs, employing 71 per cent of the total workforce. As such, SMEs contribute substantially to Singapore’s GDP. With the relative decline of financial offerings from banks, SMEs are seeing a significant increase in raising finance through crowdfunding and other Fintech-related means. This has been important in different countries in recovering from the impact of Covid-19.<sup>7</sup>

Another impact of Fintech is in asset management. Fintech has been able to make significant inroads in the asset management business which is important to economies. Asset management has been a lucrative business. In the United States for example, profit margins in asset management were at 39 per cent in 2014.<sup>8</sup> However, the sector has also seen challenges. Fintech can moderate these challenges through platforms such as robo-advisors. Employing a data-driven approach to meet customer needs, robo-

advisors are an automated system that provide wealth management services online. The data is based on the information provided by customers. The robo-advisor has been seen to provide effective service delivery with increased portfolio returns for investors.<sup>9</sup> Spurring growth and supporting economic development, innovation is at the heart of Fintech. In the words of Leon Kass, 'technological innovation is indeed important to economic growth and the enhancement of human possibilities.' This captures the significance of innovation in encouraging economic development. Traditional sectors such as insurance are seeing innovations that are enabling financial institutions to better meet customers' growing needs. This is evident in sectors such as insurance. In India for example, insurance still operates manually. The effect is that people are required to buy insurance through agents. Blockchain is addressing these challenges by removing the need for agency, fraud detection and asset tracking. The impact is that insurance can become more efficient.<sup>10</sup>

### *Negative impacts*

Fintech also poses risks to economic development. Fintech can expose financial institutions and people to cyber theft. Hackers can explore the vulnerabilities in Fintech platforms to cause havoc. In February 2016, the Central Bank of Bangladesh, Bangladesh Bank, was robbed of a total of US\$100m. The hackers issued 35 fraudulent instructions in an attempt to rob US\$1bn from the bank. Although the hackers did not succeed in stealing the amount they had intended, the event highlighted the risks of cyber theft posed by Fintech on financial institutions.<sup>11</sup>

Additionally, disruptions to the role of formal financial institutions can make an economy vulnerable to breakdown. Fintech industries are increasingly assuming the roles of formal financial institutions. The risk for the economy is that, in the event these institutions fail to adapt to the changing circumstances, the financial system will be under the control of Fintech industries which are more vulnerable to crime and shocks than formal institutions. Such disruptions can affect people's job security as well. For example, the use of robo-advisors risks the jobs of financial advisors and insurance brokers.

### **How should Fintech be regulated?**

The first step in discussing Fintech regulation is to note that Fintech poses a greater challenge for financial regulators than traditional financial institutions. This is because Fintech industries can be more difficult to monitor than traditional financial institutions. Fintech however also poses other challenges: they are more vulnerable to economic shocks, and cooperation between Fintech industries is limited in comparison to traditional financial institutions which have had more time to become established. Regulators therefore need to recognise this disparity between financial institutions and Fintech industries in order to develop proper regulatory mechanisms.

Regulating Fintech can, at some level, come in the form of national laws passed by the state's legislature or through policies passed by government institutions including financial regulators. With Fintech, regulators need to bear in mind both the opportunities and the risks. Regulation should strike a balance between the importance of encouraging innovation and supporting startups (both of which are positive drivers for economic development) and the need to minimise unintended effects that financial technology can pose to undermine financial sectors.

The use of regulatory technology (regtech) and supervisory technology (suptech) can offer regulators helpful mechanisms to regulate Fintech industries. Regtech creates room for innovation such as Blockchain and the use of Big Data to support compliance with regulations. It can therefore support companies to comply with regulations. The application of suptech creates room for regulators to supervise Fintech industries through efficient data collection. Both regtech and suptech provide regulators with transparent ways of monitoring Fintech industries and also minimise the challenge on these industries to meet their obligations

### **Conclusion and recommendations**

As explained above, developments in Fintech have both advantages and risks for economic development. The new opportunities can transform economies and promote financial inclusion. Financial inclusion can enable citizens who have not benefitted much from formal financial institutions to tap into opportunities provided by Fintech. This can

positively influence mobility out of poverty by opening up opportunities. Additionally, Fintech innovations can drive cultural and social changes that can positively affect citizens' standards of living. However, there are also risks posed by Fintech to economic development. What it does is to invite policy makers to draft appropriate regulations that can enable citizens to benefit and protect them from cybercrimes. Appropriate legislations, which meet international standards, should be formulated to deal with cyber threats. Fundamentally, policy makers need to work with the private sector to develop appropriate systems enabling Fintech industries to comply with their obligations and protect the internet from cyberattacks. Significantly, Fintech offers states, particularly developing ones, the opportunity of achieving upward mobility from poverty and improving their citizens' standard of living.

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# How can developments in Fintech impact upon economic development and how can it be regulated?

*'Ignoring technological change in a financial system based upon technology is like a mouse starving to death because someone moved their cheese.'*

Chris Skinner

## Introduction

Technology is transforming how we work, socialise, share information, and interact with people and the world around us. Financial technology - Fintech - is simplifying and expanding the provision of financial services and products, which has the potential to

transform economic development. However, Fintech also has inherent risks and challenges that can negatively impact upon economic development unless regulated. Regulating Fintech is therefore necessary to promote financial stability and growth as well as to protect consumers and investors without compromising innovation in finance. This essay discusses the concept of Fintech and economic development, then the impact of Fintech on economic development, followed by how to regulate it. Finally, we draw conclusions.

## Fintech

Fintech is an elusive concept. The word Fintech is an amalgamation of the terms ‘financial’ and ‘technology’, used for the first time in the 1980s.<sup>1</sup> Simply put, Fintech is used to describe new technologies that seek to improve and automate the delivery and use of financial services.<sup>2</sup> The UK’s Financial Stability Board (FSB) has defined Fintech as ‘a technologically-enabled financial innovation that could result in new business models, applications, processes, or products with an associated material effect on financial markets and institutions and the provision of financial services.’ This understanding of Fintech as the application of technology to change financial services and products irrespective of the provider is used in this essay.

Fintech is used to help all actors in financial systems by utilising specialised software and algorithms via computers and, increasingly, smart phones.<sup>3</sup> It emerged in the 19th century with the first transatlantic cable,<sup>4</sup> though it was known more after 1967 mainly with the emergence of electronic stock exchange and e-commerce business models in the 1970s and 1990s.<sup>5</sup> The Fintech sector fundamentally changed after the 2007/2008 economic crisis, and has increasingly attracted the attention of regulators, industry participants, and consumers alike since 2014.<sup>6</sup> With rapid development, Fintech provides huge opportunities for consumers including payments and transfers, asset management, crowdfunding, peer-to-peer lending, security trading, online banking, online accounting, insurance, Blockchain, and cryptocurrencies.<sup>7</sup>

## Economic development

The concept of economic development is not clear. For the purposes of clarity, economic development is taken to be the structural transformation of an economy by introducing more mechanised and updated technologies to increase labour productivity, employment, incomes, and the standard of living of the population generally.<sup>8</sup> It is different from economic growth, which implies only an annual increase of material production expressed in value, the rate of growth of GDP, or national income.<sup>9</sup> Economic development is measured by a sustained increase in prosperity and quality of life through innovation, lowered transaction costs, and the utilisation of capabilities toward the responsible production and diffusion of goods and services.<sup>10</sup>

## Fintech and economic development

The development of Fintech has had a huge impact on economic development. Financial systems have many basic functions, including payments, financing and equity refinement, the transfer of economic resources, risk management, information supply, and incentive provision.<sup>11</sup> The expansion and intellectualisation of all these functions can be undertaken by Fintech.<sup>12</sup> This means Fintech has the potential to develop the financial system and economy in different ways. First, Fintech enhances financial inclusion by providing financial services and products at lower cost and higher speed, with greater transparency, security, and availability.<sup>13</sup> This is because automation can reduce friction at each step along the financial service lifecycle, from account opening to conducting customer due diligence, authenticating transactions, and automating other, product-specific processes, such as assessing credit worthiness.<sup>14</sup> It also expands credit access and diminishes the necessity for cash agents by connecting consumers directly to the national payments system.<sup>15</sup> Notably, small and medium-sized enterprises (SMEs), often the driving force of an economy but unfinanced for concerns about their creditworthiness, are gaining opportunities for finance through Fintech because of improved assessment tools using artificial intelligence (AI) and Big Data.<sup>16</sup> Additionally, Fintech reduces information asymmetries since digital processes generate a data trail which can be used to understand consumers better, improve products, manage risks, and promote regulatory compliance.<sup>17</sup> Specifically, by simplifying payment systems, now even smaller companies can sell their goods and services in markets where they were once unable to venture and without having to invest in physical infrastructure, such as office space.<sup>18</sup>

By leveraging advanced technologies such as Big Data, AI, biometrics, and Blockchain, Fintech companies aim to provide financial services that are more personalised, convenient, and consumer-centric than available through traditional providers.<sup>19</sup> These Fintech opportunities enhance financial development which includes financial accessibility, depth, efficiency, and stability.<sup>20</sup> It is acknowledged that financial development is intricately linked to economic growth, enhances the rate of capital accumulation, and increases economic efficiency in resource allocation.<sup>21</sup> This financial development

also lowers the volatility of consumption, investment growth, and economic output,<sup>22</sup> which reduces poverty, raises income and promotes economic growth.<sup>23</sup> Access to saving instruments helps households to smooth consumption in the case of unforeseen shocks, and access to credit enables corporations to improve their competitiveness and productivity as well as supporting entrepreneurship for individuals.<sup>24</sup> As such, Fintech can help all businesses through improved payment systems, customer relationship management, invoicing and collections.<sup>25</sup> From this, Fintech can be seen to have a huge potential positive impact on economic development by reducing inefficiencies in resource allocation within the banking and finance sector and creating economic opportunities.<sup>26</sup>

However, this fast and global growth of Fintech cannot be free from risks. In principle, the risks in Fintech are fundamentally similar to those of traditional financial activities. Fintech poses dangers to consumers including the potential loss of privacy and compromised data from security breaches or hacking<sup>27</sup> and increased risks of fraud and scams perpetrated due to the greater distance between the provider and the customer.<sup>28</sup> There are also risks of unfair and discriminatory uses of data and data analytics; non-transparent data uses for both consumers and regulators; the harmful manipulation of consumer behaviour; and risks that tech firms entering the financial or financial regulatory space will lack adequate knowledge, operational effectiveness, and stability to adequately manage the new risks.<sup>29</sup> Fintech can also be highly affected by operational risk, which can occur frequently due to any internal error or a failure of its information technology.<sup>30</sup> Its greater accessibility may pose credit risks due to borrower default.<sup>31</sup> Moreover, Fintech is vulnerable to acute systemic risks that pose adverse economic shocks that can spread to other industries with regulators' lack of reliable information.<sup>32</sup> Fintech, especially virtual currencies such as Bitcoin, and the platforms on which they are traded have become a stomping ground for money launderers, tax evaders, and drug or weapons dealers, as well as a means of blackmailing.<sup>33</sup> Generally, Fintech is creating new opportunities and challenges for the financial sector from consumers, to financial institutions and new entrants, to regulators.

### Approaches to regulating Fintech

Financial stability and access to financial services are often held up as important goals of financial regulation. Therefore, financial regulation, including the regulation of Fintech, aims to improve the functioning of the financial system by, among other things, correcting market failures, limiting externalities, and protecting vulnerable parties.<sup>34</sup> However, due to the decentralisation, disintermediation, and transboundary nature of Fintech, its regulation is more difficult compared to financial services provided by traditional institutions.<sup>35</sup> It is more difficult to identify the actors involved as Fintech relies on dispersed networks of small players and complex algorithms for decision-making.<sup>36</sup> Even where the actors are identifiable, it remains difficult to monitor their behaviours<sup>37</sup> because the activities of many Fintech firms are not subject to the well-developed disclosure regimes that large banks generally are, and the complex workings of their algorithms are not always easily understood.<sup>38</sup> Fintech regulation is challenging as well from the lack of reliable data, unconventional business models, and potential legal amendments that might be required as well as due to limited technical expertise, limited funding/resources, jurisdiction over the activity being unclear or limited, and the need to coordinate the activities of multiple regulators.<sup>39</sup> However, uncontrolled expansion in access to financial services could lead to financial instability and social discontent without proper supervision and regulation,<sup>40</sup> which can negatively impact economic development. Due to this, regulators have been trying to balance the objectives of innovation and growth with considerations of financial stability and integrity and consumer and investor protection, and as a result, they are developing an increasing number of experimentation-based approaches.<sup>41</sup>

The first approach is the regulation-free zone, which holds that all problems relating to Fintech services can ultimately be solved by the market, which is a *laissez-faire* approach.<sup>42</sup> This has the potential to enhance the innovation of Fintech but it does not protect investors and consumers due to their weak position compared to Fintech firms, and it affects also financial integrity.<sup>43</sup> The second is the self-regulation approach, in which Fintech actors regulate themselves

since they are experts in Fintech and can access information that regulators cannot. This is problematic from the unwillingness of Fintech actors to govern themselves as it affects their profits.<sup>44</sup> A third is the regulatory sandbox approach, which gives a lightly regulated experimental space in which Fintech startups can test innovative business models on real customers.<sup>45</sup> However, while providing transparency in the entry criteria and processes, the processes are very much human-driven and analogue in their monitoring.<sup>46</sup>

Therefore, to make Fintech regulation effective, states should take further steps. At first instance, some jurisdictions want to extend the prudential regulation of traditional financial institutions to include Fintech under the approach of tech neutrality, which is principle-based and technology-neutral as it focuses on the economic function of Fintech.<sup>47</sup> This approach does not, however, take salient features of Fintech into account.<sup>48</sup> If we apply the same rules to all financial providers regardless of their nature, new technologies would not benefit from any exceptions, amendments, or accommodations to existing rules, and they would not be subjected to special regulation for their unique challenges.<sup>49</sup> To overcome this problem, special features of Fintech should be taken into account and regulated separately, which is solved by a tech-specificity approach.<sup>50</sup> However, this is problematic if more states were to follow it because of the duplication of potentially conflicting licensing and regulatory requirements for Fintech providers,<sup>51</sup> notwithstanding that states have jurisdiction to prescribe the behaviour that affects them including that of Fintech.<sup>52</sup> Globally uniform rules may therefore be suitable in regulating Fintech to avoid forum shopping and legal fragmentation.<sup>53</sup> Substantively, principle-based approach regulation has gained more traction than detailed-based prescriptions due to its adapting easily and cost-effectively to new and quickly developing business models and its lesser demands for legislative adaptations.<sup>54</sup> To ensure compliance, a subdivision of Fintech is 'RegTech', which refers to the use of technologies by financial institutions to comply more efficiently with regulatory compliance requirements such as regulatory reporting tools and technologies that facilitate reporting to regulators.<sup>55</sup> Generally, there is no 'one-size-fits-all' approach to the regulation of Fintech across jurisdictions and

these approaches should not be mutually exclusive for matching Fintech opportunities with economic development.

## Conclusion

Fintech is transforming the financial system radically and rapidly with a massive impact on economic development. Fintech has had positive impacts on economic development by increasing financial development, which includes improved financial stability, greater integrity, accessibility, and effectiveness. This is because development of the financial system has the potential to increase economic growth and reduce income inequalities and poverty. However, it can also expose risks as it may be vulnerable to criminal acts such as money laundering, cyber-attack, tax evasion, and others. It is also more vulnerable to operational risks, credit risks, and systemic risks. Therefore, issues of data security, financial stability, financial integrity, and criminal justice need attention. If these issues cannot be settled, the financial system may face failure and the economy as a whole can be shocked.

Smart regulation of Fintech should therefore be adopted to promote financial innovation on the one hand and to protect financial stability, consumers and investors on the other. Generally, Fintech should be regulated effectively and efficiently to increase its benefits as well as to reduce or avoid its risks to economic development.

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# How can developments in Fintech impact upon economic development and how can it be regulated?

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Award made in honour  
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## Introduction

The term 'Fintech' is a contraction of two words, 'financial' and 'technology'.<sup>1</sup> It refers to the use of innovative technologies in the financial services industry to improve issues in operational and customer engagement capabilities by leveraging analytics, digital functions, and data management.<sup>2</sup> Fintech promises to promote financial inclusion for people who have no access to traditional financial services.<sup>3</sup> This essay therefore aims to determine how developments in Fintech can affect economic development and how this should be regulated. To answer this question more practically, the essay uses Malawi for context. The essay will first discuss what economic development entails; second, how development in Fintech can affect Malawi's economic development; and third, it will look at the challenges facing Fintech's development. The essay will also discuss how Fintech should be regulated and then draw conclusions.

## What is economic development?

There is little consensus among scholars regarding the definition of 'economic development'. This essay however adopts economists Maryann and Amartya's definitions. Maryann defined economic development as 'the expansion of capacities that contribute to the advancement of society through the realisation of individuals', firms', and communities' potential.<sup>4</sup> Phrased differently but extending the same idea, Amartya considers it to be 'the strengthening of individuals' autonomy and substantive freedoms, which allows them to fully participate not only in economic life but also in social and cultural life.'<sup>5</sup>

It is important to distinguish economic development from economic growth. The two are interconnected but are not the same. Economic growth is the increase in

the capacity of a country to produce goods and services, comparing one period of time to another.<sup>6</sup> Economic growth creates a conducive environment for economic development as it increases the 'economic pie' to be shared among citizens in that specific jurisdiction. In turn, this allows for the expansion of individuals' and communities' capacities to participate in all spheres of life. This is because economic development leads to an improvement in the quality of life for people in that jurisdiction. The improvement, among other things, includes access to economic resources and microfinance, an increase in life expectancy, and improvement in the literacy rate.

## How can developments in Fintech improve Malawi's economic development?

According to the World Bank, the percentage of 'banked' adults in Malawi rose from only 17 per cent in 2011 to 40 per cent in 2018, spurred by the growth of Fintech in the country. This increase in financial inclusion has the potential to affect key sectors in Malawi and, in turn, to help foster economic development.

First, Fintech developments can help improve the agricultural sector, especially for smallhold farmers. Malawi's economy is heavily dependent on agriculture which employs over 80 per cent of the population.<sup>7</sup> Fintechs can play a vital role in this sector in four main ways: first, they can provide greater access to finance for smallhold farmers. Most smallhold farmers have little access to traditional financial institutions for loans or other financing offerings. In Malawi, this is for two main reasons, both because approximately 82 per cent of Malawians live in rural areas where banks are not available (mobile money platforms have proved effective in penetrating such remote areas and thus have offered a solution to the



unbanked poor.)<sup>8</sup> Second, most smallhold farmers do not have the collateral required by banks. The most valuable asset most smallhold farmers have in Malawi is their land; most, however, hold the land under customary land tenure. Under section 28 of the Customary Land Act, customary land in Malawi cannot be sold.<sup>9</sup> With land unavailable as collateral, most smallhold farmers have little access to loans.

This is where Fintech can fill the gap. Through Fintech, farmers can get access to quick easy loans through online markets to help them in the farming season. For example, in Kenya, a Fintech startup company known as Appollo Agriculture provides such services to farmers, increasing their financing capacities through loans.<sup>10</sup> We believe that such a Fintech company, not yet available in Malawi, could have a positive impact on the agricultural sector whose majority are smallhold farmers with little access to traditional financial institutions.

Second, Fintech developments have the potential to transform the health sector in Malawi. This is because it provides people, without access to banks, a forum to save, obtain loans and manage their medical expenses, and in turn hasten their recovery and return to work. The United Nations Sustainable Development Goals (SDGs), 'end poverty in all its forms everywhere' by 2030, recognises that the fight against poverty cannot be won without healthy citizens in individual countries. In the case of Malawi, this is vital as the country is dependent on its labour force to produce its food as there are no large mechanised farms, thus it is crucial for the economy to keep the population healthy.

Apart from this, Fintech can help those in rural areas without access to traditional financial institutions to have access to finance for healthcare needs through quick cash transfers from relatives, or loans, among other alternatives. This, in turn, can contribute to the economic development of Malawi as citizens will be able to get access to finances for their healthcare and as a result, improve their quality of life and level of productivity.

Lastly, Fintech can play a major role in the success and growth of entrepreneurship. In Malawi, banks are not an appropriate source of finance for SMEs due to their high interest rates and other requirements. According to the World Bank development indicators, the interest rate in Malawi is reported to

be at 24.22 per cent. Fintech can provide an alternative funding source for SMEs, for example through crowdfunding and online loans. Fintech can also protect SMEs through insurance packages in the event of business failure. This would in turn encourage young people in Malawi to start small businesses that would improve their lives and those of their families. According to the International Labour Organization (ILO), the unemployment rate in Malawi currently stands at seven per cent. Fintech would help in fighting these high unemployment levels by encouraging entrepreneurship, especially among the young in Malawi who are the most affected by the lack of jobs.

### Challenges facing the development of Fintechs in Malawi

Malawi faces several challenges in Fintech development. The first is that, over the years, Malawi has tackled how to protect consumers from fraud and abuse through effective regulation. Regulating Fintech has been a headache for the Malawian government with its rapid growth and dynamic nature. This has led some consumers to lose trust in Fintech, such as with mobile money services which have been the most vulnerable to fraudsters.<sup>11</sup>

Malawi is however gradually dealing with the problem by introducing legislation. A breakthrough was the coming into force of the Electronic Transactions and Cyber Security Act in 2016 which covered e-transactions, data protection, and privacy, as well as cybercrime. Malawi has since enacted more specific legislation guiding Fintech, in the Payment Systems Act and the Payment Systems (E-Money) Regulations 2019. These have improved the situation on the ground. However, stakeholders in the Fintech sector have raised concerns that the legislations are too fragmented and that they do not quickly address new technologies and developments.

The second challenge is a lack of infrastructure. To provide and encourage the use of digital financial services, the necessary physical infrastructure is essential; in particular, reliable electricity, mobile networks and internet connectivity.<sup>12</sup> Internet penetration in Malawi is reportedly at 20.2 per cent, electricity access stands at 15 per cent and mobile penetration is at 51.4 per cent. These numbers present a huge challenge in the development of Fintech. The government and the stakeholders have first

to deal with the challenge of infrastructure if Fintech is to develop in Malawi.

Last, is the problem of financial awareness and literacy. Marginalised groups, including women and the poor, are more likely to have low levels of financial literacy and awareness of existing digital finance infrastructure.<sup>13</sup> This is due to income gaps which leave gaps in access to technology such as smart phones. This gap would result in a large number of the population being left out which would, in turn affect the market share for Fintech and thus affect their development in that specific jurisdiction.

### How Fintech should be regulated in Malawi

Fintech regulation can be a bit more complicated than for traditional banks. Their fast technological development leaves legislative bodies playing catch-up, and the high likelihood of operating across several jurisdictions, among others. Thus, besides the general four areas of tax collection, consumer protection, financial stability and money laundering which legislative bodies aim at regulating, these areas have been fairly regulated by the existing law in Malawi as earlier illustrated by the legislation in force above. However, our concern is with the rapid development of Fintech platforms and new technologies and cross-border operations. We suggest two ways to solve this challenge of Fintech regulation in Malawi.

First, the adoption of ‘regulatory sandboxes’. This is a supervised environment created by the regulator that allows select businesses to test new products and solutions before their implementation in a fully-regulated environment. This approach has been applied to date by regulators in Australia, Hong Kong, Malaysia, Singapore, and the UK, among others.<sup>14</sup> With the problems Malawi is facing including high unemployment levels, as previously discussed, sandboxes are a way to regulate Fintech as the governments would make it easier for entrepreneurs to get Fintech startups off the ground quickly and avoid all the bureaucracy that normally needs to be done first. The result stands to be the creation of jobs for young people and enhancing financial inclusion.

Apart from this, regulatory sandboxes would help deal with the rapid innovations happening in Fintech. While trials continue in that environment, regulators gain valuable

insights about what sort of regulations are appropriate and how best to deal with gaps in consumer protection. This flexibility enables the promotion of innovation and acts as a catalyst for economic development.

Second, to deal with different domestic laws across different countries which Fintech companies have to comply with when conducting transborder transactions, we suggest drafting regional treaties that would establish parallel Fintech regulatory bodies to enable quick compliance with the regulations of each jurisdiction. For example, the Southern African Development Community (SADC) of which Malawi is a part, can adopt such a treaty and create such bodies to enable easy compliance with regulations within the region. This would help the development of Fintech. This would in turn encourage trade between the region as those that do not have access to traditional financial systems within the region can still engage in international trade as money transfers would be easier, for example, through mobile money.

### Conclusion

Developments in Fintech have the potential to affect economic development in Malawi. Fintech has been shown to enhance financial inclusion. This would enable a large percentage of the population to access financial services such as loans, insurance, and quick cash transfers. Apart from these benefits, Fintech can also help provide alternative financing for SMEs through, for example, crowdfunding platforms. This in turn could have a huge positive impact on vital sectors such as agriculture and health enabling the subscribers to obtain financing for their agricultural activities and healthcare needs, thus improving their quality of life and capacity to contribute to economic development.

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# How can developments in Fintech impact upon economic development and how can it be regulated?

## Introduction

Finance is indispensable to economic development. At its core, finance sustains and nurtures economies across the globe. The growth of new technologies in past decades has transformed and augmented the provision of financial services and products. Financial service providers have designed and introduced digital innovations to improve and deliver faster and more convenient payments, deposit, investment management, insurance, lending, capital-raising, and other services which has expanded the reach of financial services and had a positive impact on economic development trends in many countries.

Financial technology (Fintech) is an umbrella concept whereby technological innovation used by existing or startup companies can expand financial services and their products to customers. This confluence of finance with technology is more efficient, transparent and competitive, allowing for new sectors of job creation and expanding financial inclusion which are each factors that can support economic development. If not appropriately regulated, however, Fintech introduces risks including to competition, consumer protection, regulatory arbitrage, data security, theft and fraud, cyber-attack, money laundering and terrorist financing, financial stability and integrity, liquidity and mismatch.

This essay discusses the impact of Fintech on economic development. In doing so, I highlight the risks that pervade the Fintech industry and show how these risks should be monitored and regulated. To achieve this purpose, this essay is divided into several sections. The first section provides a conceptual framework of the main terms that underpin this essay. The next section discusses how Fintech can impact upon economic development. This is followed by a section which considers available approaches in better regulating Fintech without curtailing its progress. Suggestions and conclusions are provided at the end of this essay.

## Definitions

### *Fintech and its underlying features*

Fintech is a combination of the words 'finance' and 'technology'. It has been defined as 'a technologically enabled financial innovation that is giving rise to new business models, applications, processes and products.'<sup>1</sup> As such, Fintech essentially refers to the application of technology, primarily internet-driven, to deliver financial services and products in view of improving and creating new approaches for providing financial services. As economist Yadav puts it 'Fintech presents a novel species of innovation whose distinctive permutations constitute a break from past cycles of

market ingenuity.<sup>2</sup> It defies existing ways of offering and using financial services. Many new startups are Fintech institutions, while existing financial companies are investing heavily to integrate Fintech methodologies to enhance their business models and product lines.<sup>3</sup> As a by-product of such innovation, Fintech institutions are able to reach areas which previously were not covered by ordinary financial sectors.

Fintech is facilitating national as well as international transactions. Many Fintech institutions use distributed ledger technologies (DLTs) such as Blockchain for multiple applications including to enable their customers to make payments in a more secure, fast, and simple way, cutting out the intermediaries of banks through the encrypted technology that stores the transaction. Cryptocurrencies like Bitcoin and Ethereum are an offshoot of DLTs, virtual currencies that are registered and stored on a DLT (such as Blockchain), used as both a means of payment as well as an investment, some aiming to supplant existing fiat currencies with crypto. Other Fintech applications provide mobile payments or peer-to-peer money transfer solutions with Kenya-originating M-Pesa a great example whereby more than 20 million people across eight countries in Africa have used this technology to make payments, to store, send, and receive money.<sup>4</sup>

Fintech has created new and effective means for investment and non-investment financing business projects. Project owners now have better access to capital outside of banks, hedge funds, or affluent investors by using crowdfunding platforms through which a large number of individuals provide or raise money to finance projects including 'humanitarian, environmental, social, cultural, commercial, and technological projects.'<sup>5</sup> Crowdfunding firms like M-Changa, Thundafund, and Uprise. Africa are inspired by 'community-enabled financing' to facilitate and secure funds. It is beneficial because it allows a wide range of individuals to participate whereby at the same time limit or decrease the scope of potential risks.

### *Economic development*

Economic development is a multi-pronged process that aims to improve the quality of life and overall living standard of individuals.<sup>6</sup> Unlike economic growth which is measured

and quantified through the more simple increase in gross domestic product (GDP), development is measured through the more complex Human Development Index (HDI) and Physical Quality of Life Index (PQLI). Development - beyond economic growth - is key to transforming an economy, but takes time, collective action, greater scales of investment, and usually some forms of innovation. Technological innovations are important to economic development as they enable people to 'transfer capital from established methods of production to new, innovative, productivity-enhancing methods.'<sup>7</sup>

### **Impact of Fintech on economic development**

Finance plays a pivotal role in economic development to improve the quality of life and living standard of individuals. Fintech complements this role in various ways. It promotes access to finance in such a way that individuals and small and medium-sized enterprises (SMEs) are better able to obtain safe, fast, convenient loans and are able to make national or international transfers and payments. It also allows individuals to pool money and make contributions to support various projects, the impact of which can be diffused and place a country's economy on a higher growth trajectory.

Fintech can have a positive impact on economic development, one development of which is through financial inclusion. There is a strong correlation between economic development and financial inclusion.<sup>8</sup> Financial inclusion basically refers to the ability of individuals to access financial services at a reasonable time and cost. By contrast, financial exclusion exacerbates existing social disparity, poverty, and inequality which eventually harm national economic development. According to the International Monetary Fund (IMF) and a World Bank report, 1.7 billion adults globally lack access to finance.<sup>9</sup> This is attributed to multiple factors including 'geographical barriers, absence of collateral, [and] market failures.'<sup>10</sup> Fintech has the potential to surmount these challenges to achieve broader financial inclusion. Fintech solutions such as crowdfunding, peer-to-peer lending and mobile banking have enabled millions of people across the globe to make payments, transfers, savings, and investments faster and at their fingertips. M-Pesa is one

of the successful Fintech innovations that has created an avenue for greater financial inclusion, increased saving and more ability to make payments. Founded in Kenya in 2017, it now operates in eight countries and has more than 20 million users.<sup>11</sup> This platform allows its users to transfer money, pay bills, receive their salaries, and have access to micro-finance loans and savings.<sup>12</sup> This Fintech solution has reportedly 'lifted two per cent of Kenyan households out of poverty.'<sup>13</sup> Fintech can also impact economic development through the reduction of costs for such remittance transfers. A World Bank report shows that costs for remittances can be reduced from US\$3.95bn to US\$2.36bn if consumers use Fintech firms.<sup>14</sup>

Fintech can support new as well as existing SMEs, which are important in job creation and to sustained economic growth. SMEs have typically faced challenges in proving their creditworthiness and in providing collateral in going to traditional banks, both issues Fintech helps to resolve. Fintech solutions allow SMEs to borrow money at lower interest rates than conventional banks and modernises trade finance processes for better cash flows. SMEs can also benefit from crowdfunding to fund latent capital investment projects.

Fintech also aids finance mobilisation for climate change-related risks. Individuals living and dealing with climate change repercussions can take advantage of Fintech solutions in saving, remitting, crowdfunding, and insurance. Fintech firms can support farmers who lack the requisite collateral to tokenise their livestock (for example) to get credit. It can also offer opportunities to the agricultural sector. Fintech services influence financial stability by providing greater transparency for transactions. Distributed ledger technologies log a record of every transaction with experts relaying that it is nearly impossible to delete transaction history. Donors can use this technology in donating to developing countries using 'international aid coins'. This is important as it prevents those who receive the money from committing fraud or other corrupt practices and informs donors where and how the aid funding has been used by the receiving country.

#### How should Fintech be regulated?

Innovation is key for economic development. Fintech innovations offer many benefits and

opportunities, but there are corresponding risks. As financial services enabled through AI, distributed ledger technologies, Big Data and advanced analytics are still evolving, it is important to develop regulatory regimes that strike a balance between financial stability, efficiency, consumer protection, and competition on the one hand, and that promote Fintech innovation on the other. To achieve such a dual purpose, two interrelated questions are inevitable: What are the risks inherent to the Fintech industry? How should it be regulated, taking into consideration such risks? Before I discuss these questions, I must briefly discuss the available ways or approaches to choose from in regulating Fintech.

The first is the laissez-faire approach. Its proponents basically argue for a complete deregulation of Fintech firms.<sup>15</sup> They argue that the progress of Fintech innovation could be stifled if strict regulation is adopted to control the creative impulses of the industry. Although this might offer a room for innovation, however, it can also lead to financial chaos. A second is the case-by-case approach. With this approach it is acknowledge that all Fintech firms are not the same: there are evident differences in their areas of work, capacity and scope, so it is better to take such disparities into consideration and to regulate them as such.<sup>16</sup> Another approach is to amend existing laws. This approach basically aims to introduce new legislation to regulate Fintech more effectively. This is important for efficiency as it takes little time and cost to amend existing laws and introduce new ones, but could create rigidity and potentially suffocate further Fintech innovations. A fourth approach is to use the regulatory sandbox. A regulatory sandbox creates a conducive testing environment for innovation ahead of fully regulating the new products introduced by these firms.<sup>17</sup> The regulatory sandbox approach has convincing strengths for two interrelated reasons. First, the approach strikes a good balance between innovation and regulation. Second, it allows Fintech firms to work with policy makers and regulators.

As Fintech is a result of advances in technology, it is also susceptible to data security risks. Misuse of personal data by Fintech firms as well as external actors can result in substantial losses of data, data having become 'the most important commodity surpassing the value of money.'<sup>18</sup>

With regard to data security risks, regulators should require Fintech firms to adopt the necessary documentation procedures and such requirements must stipulate that such documentation procedures must not infringe upon user privacy. Cyber security is another risk. The total amount of money involved in the Fintech industry runs in the billions which makes it enticing for cyber-attacks. As such, regulators should first list possible cyber-attacks and then put requirements for Fintech firms to create a mechanism to defend such attacks. Laws relating to competition should also be reviewed to avoid macro financial risks which could affect financial stability. Another risk is associated with regulation arbitrage in which Fintech firms take advantage of the lack of regulatory standardisation around the globe. To tackle this problem, agreement about international standards is important.

### Conclusion

Fintech has the potential to foster economic development. It plays a vital role in creating a means whereby more people are better able to access financial services. Moreover, through crowdfunding and peer-to-peer lending, among other developments, Fintech firms can enhance the quality of life as well as the living standards of people. Although the Fintech industry is only nascent, it is nonetheless important for it to be regulated. However, in regulating Fintech, it is important to strike a balance between encouraging further technological innovation and proper regulation. Furthermore, to fully achieve financial inclusion through Fintech, financial literacy should be promoted. To tackle the risks associated with Fintech, information and knowledge sharing between governments, companies, and other stakeholders is also necessary.

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# How can developments in Fintech impact upon economic development and how can it be regulated?

*'Fintech is not only an enabler but the driving engine.'*

Pierre Gramegna

## Introduction

The traditional financial sector has seen clear disruption in recent times from advances in financial technology (Fintech). Its rise has revolutionised finance, eased the banking sector and made financial transactions simpler and more available for consumers through efficient, affordable and accessible services. This has inevitably contributed to economic development as shown in a study which revealed that, during the Covid-19 pandemic, countries more advanced in Fintech saw higher growth in gross domestic product (GDP).<sup>1</sup>

To this effect, this essay strives to provide a comprehensive overview on developments in Fintech and how it affects economic development, and offers ways in which it should be regulated. To achieve this objective, this paper first defines economic development and Fintech and then establishes the link between Fintech and economic development. Thereafter, it will demonstrate the ways in which developments in Fintech affect economic development and suggest ways it should be regulated. Finally, a conclusion will provide a summary of the impact of Fintech on economic development and show the need to implement the regulations proposed.

## Economic development

*'...Just so, the great cold of poverty and economic stagnation is merely the absence of economic development.'*

Jane Jacobs

It is not easy to find a single and comprehensive definition of economic development. The International Economic Development Council (IEDC), however, defines it as a programme, group of policies, or activity that seeks to improve the economic wellbeing and quality of life for a community.<sup>2</sup> It has also been defined as a process of structural transformation with continuous technological innovation and industrial upgrading.<sup>3</sup> Ultimately, economic development seeks the improvement of a society's wellbeing and standard of living.

Economic development is often confused with economic growth which distinction should be made clear. Economist Amartya Sen refers to economic growth as one section of the economic development process. It is an increase in GDP and a focus on market productivity, while economic development is the improvement in the quality of life and standard of living within a growing economy. According to economists Todaro and Smith, economic development is the eradication poverty and curtailment of inequality. Economic growth thus, fosters and is a facet of economic development.

## Fintech and its developments

The word 'Fintech' lends an easy interpretation. Simply put, it is the use of technology to enhance the delivery and use of financial services. The Bali Fintech Agenda defines Fintech as 'advances in technology that have the potential to transform the provision of financial services'. Its rise is spurred by the seismic expansion of internet access and use of technologies especially, smart phones.

Financial technological developments before Fintech include the laying of the first transatlantic cable in the mid-19th century and first ATM in 1967. In more recent

decades, the world has experienced Fintech's leaps in innovation with the introduction of Bitcoin in 2009 and peer-to-peer payment systems in 2011.

Today, there are 300,000 Fintech start-ups globally with the Fintech space now worth approximately US\$179bn.<sup>4</sup>

### Correlation between Fintech and economic development

Todaro and Smith indicate that development includes the acceleration of economic growth, the reduction of inequality, and the eradication of poverty. The impact of Fintech encapsulates these factors. It has speeded-up economic growth, reduced inequality and reduced poverty in many countries.

The UN General Assembly's compendium titled 'Transforming our World: the 2030 Agenda for Sustainable Development' reveals the impact of financial technology in hastening economic growth through digital inclusion.<sup>5</sup> In Kenya for instance, Fintech has lifted about a million people from extreme poverty and combated inequality by giving many 'unbanked' access to financial services through the mobile money service 'M-Pesa' which has significantly improved standards of living through the greater financial inclusion it has brought about. Reports show that Fintech fosters annual economic growth by up to 2.2 per cent.<sup>6</sup> Observing its influence on economic development, the inextricable link between Fintech and economic development is established.

### How developments in Fintech can affect economic development

The ways in which developments in Fintech can have an impact on economic development are profound.

#### Developing agriculture

*'Investments in agriculture are the best weapons against hunger and poverty and they have made lives better for billions of people.'*

Bill and Melinda Gates Foundation

Ancient civilizations like ancient Egypt, Nubia, and Mesopotamia remind us of that agriculture is essential in an economy's development. Today, the World Bank indicates that agriculture accounts for four per cent of the world's GDP; but in developing countries, it is more than 25 per cent.<sup>7</sup>

With the knowledge that problems in agriculture will negatively affect economic development, Fintech helps in agricultural transformation through innovation for farmers. In Kenya, Fintechs like Apollo Agriculture aids small scale farmers to maximise their profits by transforming subsistence farming to commercial farming, helping farmers like Magaret Chinero Sigei who used to harvest ten bags of produce to now harvest 25 bags after using Apollo.<sup>8</sup> By using satellites to monitor crop growth over seasons and providing this data to farmers, people can make better decisions about their crops and increase yields. Apollo also contributes to financial inclusion by providing mobile money accounts and building credit scores so farmers can secure loans. With many intermediaries absent, the cost of financial services is lower, resulting in higher productivity, increased employment and the more efficient production of food.

#### Fostering innovation

Using innovation, Fintech generates numerous products and services which have speeded up money transfers, reduced transfer costs and increased access to capital, spurring economic growth. An example of these innovations is digital banking which offers products and services at lower costs than traditional banks. Digital-only banks also render cheaper services to customers with the same quality as traditional banks since human resources and infrastructural costs have been reduced.

However, one profound innovation is the use of artificial intelligence (AI) in financial services like robo-advisors. By using a personalised portfolio, they offer automated financial advice, manage investments and offer investment plans.

#### Working towards financial inclusion

*'Economic development cannot take a nation forward on its own [...]. We need to take care of the poor, deprived and left behind sections of society.'*

Narendra Modi

Fintech has paved way for a financially inclusive society through its products, services and the smart phone by bringing financial services to those who could not access them before. For example, as mentioned, the Kenyan mobile money service, M-Pesa, has helped lift approximately



one million people out of poverty.<sup>9</sup>

Additionally, money can be raised through crowdfunding. The UN High Commissioner for Refugees (UNCHR) used this to bring relief to the refugee plight, so refugees can complete their education.<sup>10</sup> Furthermore, by using digital payments, people can have improved access to clean water. Water payment's digitisation project in Tanzania tripled water utility payments and reduced the waiting time of water collection from three hours to ten minutes on average within a year.<sup>11</sup>

### *Fostering innovations in the health sector*

Fintech innovations help many people deal with healthcare emergencies in a better way. Through financing and digital payments, healthcare service providers can reach out to people in rural areas who have inadequate access to healthcare. For instance, in Bangladesh, innovations in Fintech enabled the mobilisation of health agents in the community to register more than a million new mothers to a maternal health programme through the platform 'MAMA Bangladesh'.<sup>12</sup> Mothers receive important health information from pregnancy all the way to infancy. Additionally, the low costs that accompany registration, payment of premiums and receiving disbursement, make micro health insurance affordable and practicable for people. In the United States, the Fintech health innovation, Oscar Health, makes it easier to make health claims at a reasonable cost. Through these innovations, people's wellbeing is promoted.

### **How developments in Fintech should be regulated**

There are risks associated with the Fintech industry that pose a threat to consumers and to the environment. It is therefore necessary that they are curbed to ensure the safety of consumers, the environment and the digital environment in which payments are made. This can be done in a number of ways.

### *Strengthen cybersecurity*

The first step in regulating Fintech is to reinforce cybersecurity. The vulnerability of the Fintech industry to cyberattacks cannot be overemphasised. This because Fintech firms hold consumers sensitive information,

attracting cybercriminals. In 2022, hackers stole approximately US\$15m worth of Ethereum, US\$18m worth of Bitcoin and other cryptocurrencies.<sup>13</sup>

This essay recommends that latest approaches in data security such as encryption and tokenisation,<sup>14</sup> which is the conversion of sensitive information into secret codes and tokens (generated number) respectively, should be employed. With tokenisation, information can be decrypted which can be read using distinctive databases known as 'token vaults.' These token vaults can even be encrypted to strengthen security further.

Fintech security policies do require passwords but these are not enough. Security risks can be reduced by forcing consumers and employees to have regular password changes. For example, some online banks require their users change their passwords every three or six months. This can be imitated. The One-Time Password (OTP) system where the app generates a new and unique password every time a user logs in or makes transactions used by some digital banks is also feasible.

Consumers too, when using the internet should use a Virtual Private Network (VPN),<sup>15</sup> which disguises online activity and encrypts online connection, giving the user more privacy and circumventing cybercrime.

### *Use Fintech regulatory sandboxes*

This essay also suggests that approaches such as Fintech regulatory sandboxes should be used to regulate Fintech. They give innovative businesses in Fintech a testing ground to experiment with their new products and services under the eye of a regulator before it is brought to the market.<sup>16</sup> In 2021, the Bank of Ghana launched an innovation and regulatory sandbox pilot to foster a regulatory environment promoting Fintech innovation.<sup>17</sup> By using a regulatory sandbox, regulators ensure that Fintech innovations operate as intended, solving problems without creating new ones.

Regulators, by gaining an understanding of a product or service being tested first-hand can ensure it is sustainable and minimises risks. They will also be able to better draft regulations to cover areas of Fintech that were initially unclear or non-existent due to their unfamiliarity with the new product or area. Through regulatory sandboxes, a safe space for Fintech innovations and ideas is

created for mutual benefit. The main aim is to integrate regulations and compliance with the rapid growth of Fintech companies.

### *Governments should increase and tighten restrictions on Fintech operations*

This essay proposes that more work should be done to tighten restrictions on the activities of Fintech industries. Laws on Fintech firm restrictions should be introduced not just to protect the consumer but also the environment, from the impact of energy intensive digital currencies like cryptocurrency. For example, limits should be placed on the amount of energy crypto-mining operations can use, and renewal of air permits should be denied if cryptocurrency firms are not willing to cut down on plant emissions. Laws can also be passed which halt moratoriums on ‘proof of work’ operations,<sup>18</sup> which is a much more energy-intensive way of mining cryptocurrencies. In New York for instance, lawmakers have passed a bill that will halt proof of work operations for two years.

Governments should also encourage Fintech businesses to use regulation technology, to help adhere to regulations through supervisory practices tailored for Fintech apps.

### *Close the digital gap by investing in Fintech*

It is important that investments in soft and hard infrastructure favourable to Fintech are prioritised especially in Africa. Statistics indicate that internet penetration in Africa is below the global average of 59 per cent and that only 26 per cent of the population has internet connectivity.<sup>19</sup> Fintech is a big user of internet connectivity and digital technology. With high demand for digital financial services, it is important that this digital gap be bridged by investing in increasing access to connectivity, particularly 4G networks and broadband as well as quality digital infrastructure. Fintech will then be able to grow rapidly and thrive in a digitally inclusive environment.

### *Digital currencies like cryptocurrencies should cut down on energy use*

The rate at which digital currencies consume energy is alarming. Considering the global aim to reach net-zero emissions,

the problem that cryptocurrencies create on the environment looms large. Bitcoin, the most popular cryptocurrency consumes half a percentage point of the electricity consumed globally.<sup>20</sup> This essay suggests that cryptocurrencies should move away from their ‘proof of work’ model,<sup>21</sup> an energy-intensive approach of validating transactions using several computers within the blockchain network, and instead adopt ‘proof of stake model’ which requires only a single validator and is more energy efficient.

## **Conclusion**

To summarise, this essay has made apparent the impact developments in Fintech have on economic development. This is demonstrated through the role of Fintech in developing agriculture, fostering financial inclusion and reducing poverty levels as well as spawning technological innovations including innovations in the health sector. Developments in Fintech have touched on the three factors required for development mentioned in Todaro and Smith’s definition of development mentioned in the main text. It is therefore indisputable that developments in Fintech impact on economic development. The credible impact of Fintech on economic development however, may not be sustained if it is not regulated to reduce or avoid risks. Strengthening cybersecurity, using regulatory sandboxes, bridging the digital gap in countries and ensuring that Fintech industry operations are environmentally friendly are means that should be adopted to regulate developments in Fintech. When these regulations proposed above are adopted and properly implemented, economic development is assured.

## **Notes**

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  - 12 *Ibid.*, p11.
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