FINTECH AND TRADITIONAL BANKS: FRIENDS OR FOES?

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Abstract: *Rapid development of technology is influencing all sectors of the economy. FinTech is a term that encompasses all technology used to enhance, hasten, and automate financial processes for all included. FinTech companies experienced twentyfold growth in the past 10 years, where two years topped above 200bn USD in yearly investments, being one of the fastest growing hybrid sectors in developed countries. The banking sector, on the other hand, is also experiencing growth, albeit at a much slower pace. Banks, however, are implementing FinTech solutions at an increased rate, using both internal sources and external FinTech solutions to propel their growth.*

With obvious differences between new FinTech companies and traditional banking sector, the question arises: does growth in FinTech inhibit growth of traditional banking sector, or are two sectors codependent?

Key words: FinTech, Banking

1. INTRODUCTION

Traditional banking has been staple of humanity's progress since its inception in the middle ages. Banks have been leading financial intermediaries, especially for transferring financial resources from individuals to other individuals or businesses. For decades they went unchallenged, often being at the forefront of each financial revolution. Only regulators or certain market events could have a stronger negative influence on banks (of course, their own bad business mistakes as well). And up until now, their position in the hierarchy of financial institutions was never in doubt. However, in the past two decades, other, specialized companies started to emerge, which often tapped into one or more functions of a bank. Collectively, these companies are known as FinTech.
Broadly, FinTech is an umbrella term for innovative technology-enabled financial services and the business models that accompany those services. In simpler terms, FinTech can be used to describe any innovation that relates to how businesses seek to improve the process, delivery, and use of financial services (Mention, 2019). From the beginning in the '70s, traditional banks were the ones who were first to implement IT solutions in order to optimize their processes, most notably to improve operational efficiency through better data processing, introduction of ATMs and electronic processing of payments, and, at the end of the 20th century, the introduction of on-line banking. From the beginning of 21st century, different companies sprung up that started to compete with traditional banks, offering services that were directly competing with services offered by the traditional banks, or offering new services previously not offered by traditional banks. Today, innovations in FinTech can mostly be briefly summarized as "ABCD," a well-known acronym in which "A" stands for artificial intelligence (AI), "B" for blockchain, "C" for cloud computing, and "D" for Big Data (Chen, 2020). New technologies have potential to cause market disruptions, but competition is socially beneficial (Vives, 2019).
To keep their position as a staple of the financial sector, traditional banks are either collaborating with FinTech companies or making in-house solutions to answer new challenges that are put in front of them. The long-standing dominance of leading firms that are not able to figure out how to effectively hook up with the "Fintech Revolution" is at stake (Gomber et al, 2018). Different FinTech companies cover different aspects of financial businesses, such as, but not limited to: lending, transactions, personal finance and wealth management, regulations, accounting and corporate software etc. While some FinTech solutions could be disruptive to traditional banking, other solutions complement traditional banking processes and enhance them through better and/or faster execution, lower transaction costs and overall better user experience.

PayTech solutions encompasses a wide range of solutions that are both complementary and disruptive to traditional banking methods. Some of the PayTech technologies are:

- Mobiile payments – use of mobile devices to initiate and complete transactions by using NFC or QR codes.
- Contactless Payments - similar to mobile payments. Payments without physical contact, using RFID or NFC technology.
- Peer-to-peer payments – money transfers between individuals without the involvement of traditional banking intermediaries, instead facilitated through online platforms or mobile apps.
- Blockchain based payments – transfers using distributed ledger technology to facilitate secure and transparent peer-to-peer transactions.
- Payment Gateways – systems that facilitate secure transfers of information between customers, financial institutions, and traders.
- Digital Wallets – Electronic platforms that store payment card information to allow users to make digital purchases.

PayTech is to some point involved in interest generated revenue, which is still the most important source of revenue for traditional banks. However, most PayTech companies either compete with traditional banks in the money-transfer segment or facilitate transactions from one bank account to another, boosting their revenues from transaction fees. We wanted to see does the change in revenue generated by largest PayTech companies somehow reflected on the non-interest revenue generated by the top US banks.

2. DATA AND METHODS

To test whether PayTech companies have positive or negative (or any) influence on the traditional banking sector, the authors compared growth rates of revenue in the past 5 years of four largest PayTech and money-transfer companies and growth of non-interest revenue of four largest banks based in the United States. Also, we tested for correlation by using Pearson's test, although we acknowledge the problems of small data-sample and possible non-normality. To somewhat mitigate those problems, we also used Spearman's rank coefficient to further test the correlation.
Traditional banks that we used in our research were JPMorgan&Co, Bank of America, Citibank and Wells Fargo. Their non-interest revenue from years 2018-2022 can be seen in Table 1, with Table 2. showing Year-over-Year revenue growth.

Table 1: Non-interest revenue for 4 largest US banks for 2018-2022 (in $ million)

	2018	*2019*	*2020*	*2021*	*2022*
JPMorgan&Co.	*$ 53,724*	*$ 58,154*	*$ 65,388*	*$ 69,338*	*$ 61,985*
Bank of America	*$ 42,858*	*$ 42,353*	*$ 42,168*	*$ 46,179*	*$ 42,488*
Citi Bank	*$ 26,292*	*$ 26,939*	*$ 30,750*	*$ 29,390*	*$ 26,670*
Wells Fargo	*$ 36,413*	*$ 37,832*	*$ 34,308*	*$ 42,713*	*$ 28,835*
Total	*$ 159,287*	*$ 165,278*	*$ 172,614*	*$ 187,620*	*$ 159,978*

Table 2: YoY revenue growth for 4 largest US banks for 2018-2022

	2019	*2020*	*2021*	*2022*
JPMorgan&Co.	*8.25%*	*12.44%*	*6.04%*	*-10.60%*
Bank of America	*-1.18%*	*-0.44%*	*9.51%*	*-7.99%*
Citi Bank	*2.46%*	*14.15%*	*-4.42%*	*-9.25%*
Wells Fargo	*3.90%*	*-9.31%*	*24.50%*	*-32.49%*
Total	*3,76%*	*4,44%*	*8,69%*	*-14.73%*

In total, it can be observed that there was growth in non-interest revenue in each year except 2022, where the whole sector experienced a sharp decline. Also, while some banks have quite small non-interest revenue changes from year to year, for other banks those changes were more severe, such in the case of Wells Fargo bank.
On the opposite side, we have the 4 most well-known PayTech companies that are mostly dealing with money transfer functions. Those companies are:

- PayPal – Largest PayTech company by revenue, based in the USA. It is one of the oldest FinTech companies, having been founded in 1998, it went public as early as 2002, being constituent of NASDAQ -100 as well as S&P 100 indicies. In 2022, it was ranked as 143rd largest US corporation by revenue (Fortune, 2022).
- Stripe – Largest privately owned PayTech (beside other services) company by valuation, headquartered in USA and Ireland. Founded in 2009, with seed investors including Elon Musk and Peter Thiel, one of PayPal founders.
- Wise – One of the largest public FinTech companies in Europe and largest on-line money transfer company in Europe, founded in 2011 and listed on the London Stock Exchange.
- Payoneer – US money transfer and PayTech company founded in 2005, listed on NASDAQ and constituent of S&P 600 index.

Revenue for sample PayTech companies can be seen in Table 3.

Table 3: Revenue for 4 sample PayTech companies for 2018-2022 (in $ million)

	2018	2019	2020	2021	2022
PayPal	$ 15,451	$ 17,772	$ 21,454	$ 25,371	$ 27,518
Stripe	$ 1,500	$ 2,000	$ 7,400	$ 12,000	$ 14,000
Wise	$ 157	$ 228	$ 389	$ 584	$ 709
Payoneer	$ 260	$ 318	$ 346	$ 473	$ 628
Total	$ 17,368	$ 20,318	$ 29,589	$ 38,428	$ 42,855

Table 4: YoY revenue growth for 4 largest US banks for 2018-2022

	2019	2020	2021	2022
PayPal	15.02%	20.72%	18.26%	8.46%
Stripe	33.33%	270.00%	62.16%	16.67%
Wise	45.22%	70.61%	50.13%	21.40%
Payoneer	22.31%	8.81%	36.71%	32.77%
Total	16.99%	45.63%	23.00%	11.52%

From Table 4. can be seen that all sample PayTech companies posted revenue growth, even in year 2022, in contrast to traditional banks.

3. RESULTS

Figure 1. shows Year-over-Year revenue growth, showing, on average, constantly higher revenue growth than the non-interest revenue of the big 4 of US traditional banks. The only cases where single sample PayTech compnies didn't post hihger revenue growth compared to traditional banks were in 2020 (Payoneer revenue growth was lower than JPMorgan&Co. and Citibank) and 2021 (PayPal had lower revenue growth than JPMorgan&Co.)

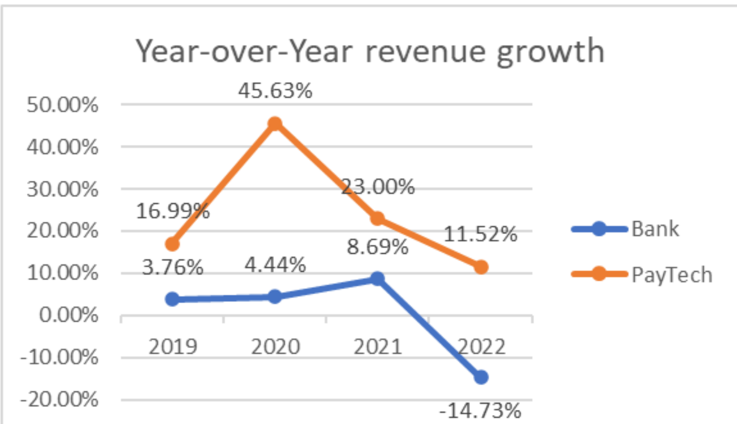

Figure 1: Year-over-Year revenue growth for Banks and PayTech companies

Pearson's r test returns the value of 0.522, which shows positive correlation between non-interest bank and PayTech revenue growth. However, due to the small sample size, it fails to prove significane at any meaningful level.
Spearman's rank coefficent shows even higher correlation of 0.8, with better *p*-statistics, however it is still not strong enough to verify the results.

4. DISCUSSION

Although both Pearson's r test and Spearman's rank coefficient test show strong correlation, the power of both test results are not significant. Those results show that it is possible that traditional banks profit from the PayTech emergence and that PayTech companies are not necessarily substitutes for traditional banks operations, but work in unison as well.
The YoY revenue growth shows prevalence of PayTech companies in previous years, but it is possible that some of their growth is coming from transactions in which traditional banks are also included. Considering current financial laws, traditional banks are still staple of financial sector, but it seems that they can keep their positions only if they aggressively follow current trends and work closely with FinTech institutions and companies in delivering better customer experience. On the other hand, although FinTech is growing faster than the traditional financial sector, it still relies on traditional banks. One reason for that could be the sense of security that traditional financial institutions offer, due to the regulations imposed on them by market regulators and the lawmakers. FinTech companies, although evermore present, and with increased scrutiny given to them by regulators, are still not perceived as safe as traditional banks, ushering in the need for cooperation between FinTech companies and traditional banks.

5. CONCLUSION

At the beginning, we gave a brief overview of FinTech influence on traditional banking and the course of development of FinTech. PayTech, as a part of FinTech industry, was thoroughly explained and given its role in the current financial industry, was prioritized in this research.
This paper showed that, although PayTech has significantly larger YoY revenue growth when compared to the non-interest growth of the traditional companies, the movement of and magnitude of that growth is correlated. Although the significance of both Pearson's and Spearman's rank test were lower than required, we can see that there is a strong possibility that PayTech and traditional banks do influence each other. We can't rule out the market influences on both banks and PayTech companies, however the current financial regulators work in favor of cooperation between two groups of financial companies. As the time goes, the correlation results will be stronger as PayTech companies, most of them new on the market, will gain enough track record for tests to have lower p-value and, thus, strong significane.

7. REFERENCES

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