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What does Chat Generative Pre-Trained Transformer (ChatGPT) Really Mean for Finance, Business, and the Economy of the Modern Era?	

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The BICM Financial Market Review provides analytical insights about the performance of the financial market in Bangladesh on a monthly basis.



The current economy of the world is becoming more vulnerable day by day, impacting the global commodities' price going up, but Bangladesh, being connected globally with several neutral countries and neutral diplomacy, is surviving the economic shocks with 7.25% GDP growth and high export growth relative to import growth.



Economy of Bangladesh

Key indicators at a glance

Countries	Nominal GDP (as of Apr, '22) (USD in billion)	Real GDP Growth (as of Apr, '22) (yearly % Change)	Inflation Point to point (as of Oct, '22)	Currency Appreciation/Depreciation against USD	Reserve (Billion US\$)	Currency Exchange Rates (per USD)
Bangladesh	460.75	7.25%	8.57%	-1.00%	32.22	107.03
Emerging Economies						
India	3,821.00	8.70%	6.50%	1.55%	575.3	81.71
China	4,778.20	3%	0.80%	3.15%	3184	6.91
Developed Economies						
USA	6,533.10	2.90%	6.41%	0%	243	1
UK	735.90	1.90%	8.80%	2.47%	182.79	0.83

Figure 1: Key Economic Indicators

Appreciation/Depreciation of Currencies against USD

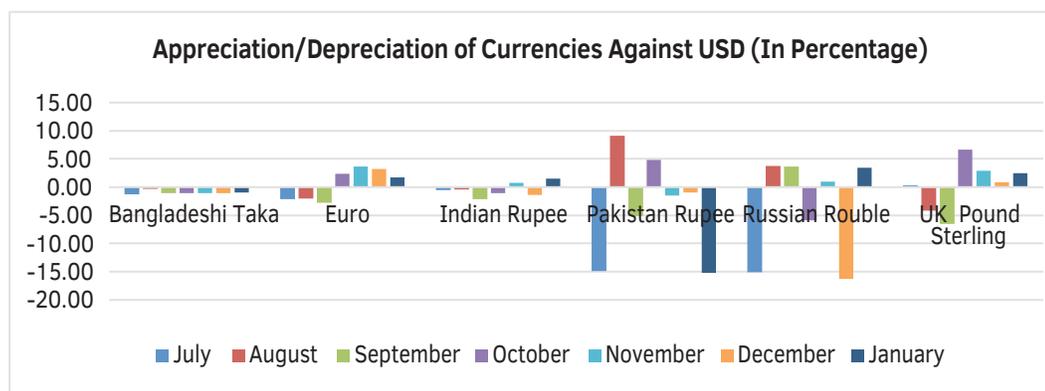


Figure 2: Appreciation or Depreciation of Different Currencies against USD

A visual tour of the key statistics

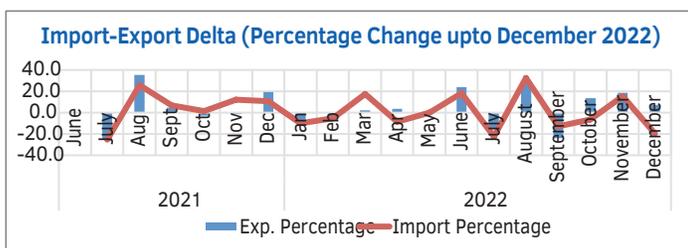


Figure 3: Import-Export Delta (Percentage Change up to Dec-22)

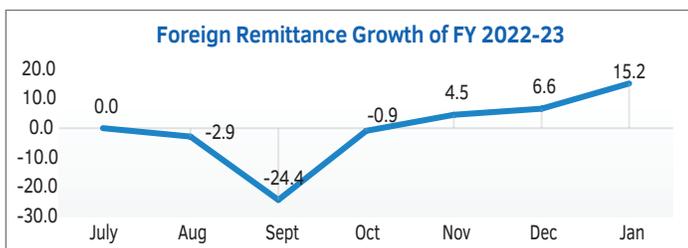


Figure 4: Foreign Remittance Growth of FY 2022-23

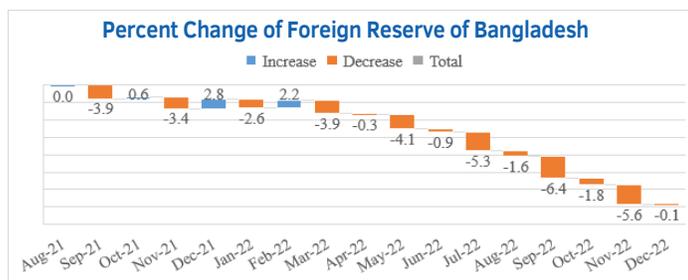


Figure 5: Percent Change of Foreign Reserve

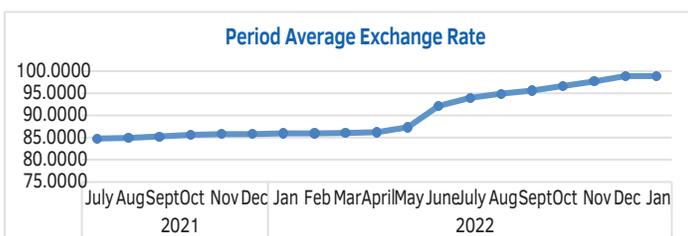


Figure 6: Period Average Exchange Rate of Bangladesh

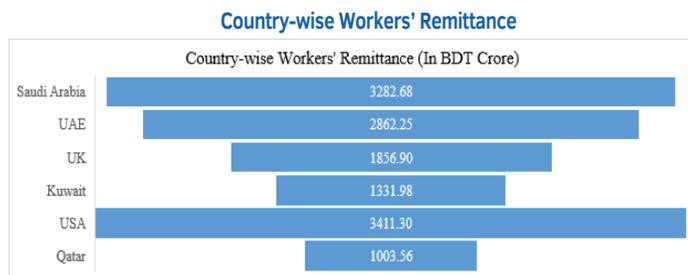


Figure 7: Country-wise Workers' Remittance

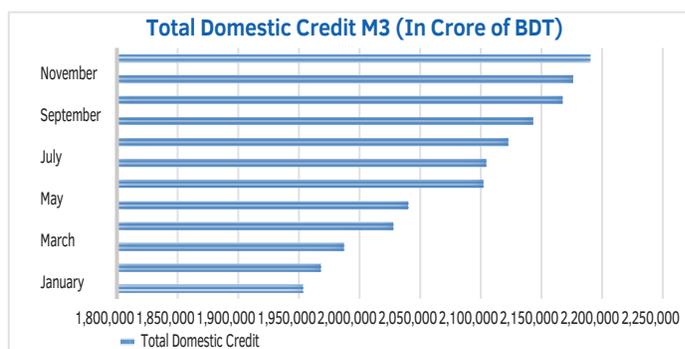


Figure 8: Total Domestic Credit



Figure 9: 12- Month Average Inflation (In Percentage)

Numbers to Note

1. BDT was found to be depreciating by 1.0% per USD while other big South Asian economies were appreciating against the USD in this month.
2. Export growth was positive while import growth was very negative during the month; this is apparently a good indicator, but a hindrance in importing commodities through LC can be a negative sign for the economy.
3. Foreign remittance growth increased by 15.2% in February compared to the earlier month.
4. The reserve is now 32.22 billion US dollars. This is a 4.5% decrease from the previous month.
5. The average monthly exchange rate is now 98.8571 BDT per USD, which represents stability over months.
6. The Debt to GDP percentage in 2021 is 21.8%, up from 19.5% in the previous year.
7. The 12-month average inflation is 7.92%; it was 7.7% in the previous month.

Economic Challenges Ahead

1. The foreign loan per capita is now BDT 32,740, which is an economic concern for the country.
2. The IMF's loan of USD 4.7 billion is going to tie the economic policy of Bangladesh to a differently guided procedure that may collide with the economic plans or budget policies of Bangladesh.
3. The exchange rate instability is still making the currency level macro-economic indicators vulnerable.
4. The reserve is decreasing, that is an unsatisfactory signal, but the rise in exports is showing a good sign of adjustment.
5. The rising inflation and increasing cost of commodities may turn the switch of the economic depression in Bangladesh unless they are tackled properly.

Data Source: Bangladesh Bank, IMF, WB & BBS

Capital Market Continued to Topple Losing 60 Points in February



Capital Market

In February 2023, the market demonstrated a 1% decrease in the DSEX index compared to the previous month. The prices of the majority of issues rested on the floor.

It is glaringly apparent by analyzing the capital market snapshot of February 2023 that the DSE market indices demonstrated downward movement throughout the month but balked the negative trend at the last few trading days. The prices of the majority of issues were unchanged due to market inertia. Other indices have also decreased compared to those of January. During February, on average, only 36 issues were advanced, 129 issues were declined, and the remaining 153 issues were unchanged.

DSE Market Indices

Index Name	01-Feb-23	28-Feb-23	Change	% Change
DSEX	6,277.18	6,216.95	-60.23	-0.96%
DSES	1,369.97	1,359.66	-10.31	-0.75%
DS30	2,223.96	2,220.98	-2.98	-0.13%
CDSET	1,222.30	1,220.75	-1.55	-0.13%
DSMEX	1,213.34	1,014.09	-199.25	-16.42%
Scripts Movement	Advance		Decline	Unchanged
	36		129	153

Figure 10: DSE Market Indices

DSE Market Indices

	28 Feb 2023	31 Jan 2023	Change	% Change
Average Market Capital (TK Million)	7,646,822.51	7,596,534.15	50,288.36	0.66%
Average Traded Value (TK Million)	4,541.57	5,098.63	-557.05	-10.93%
Average Number of Trades	87,445.00	113,562.83	-26,117.83	-23.00%
Average Trade Volume	60,578,221.47	83,011,330.48	-22,433,109.00	-27.02%

Figure 11: Market Aggregates

Sector-wise Contribution

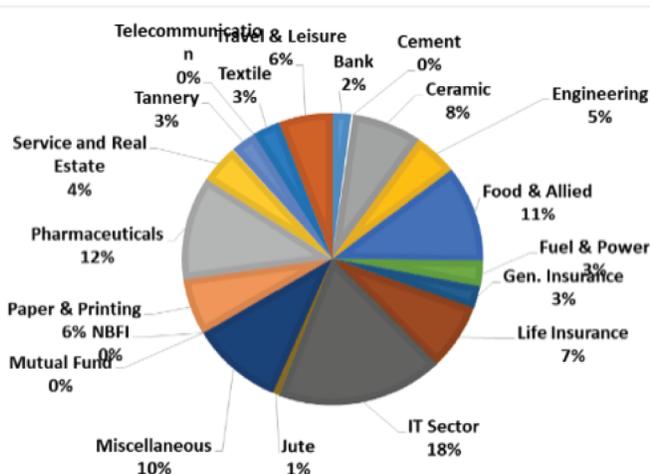


Figure 12: Sector-wise Contribution

SECTOR RETURN

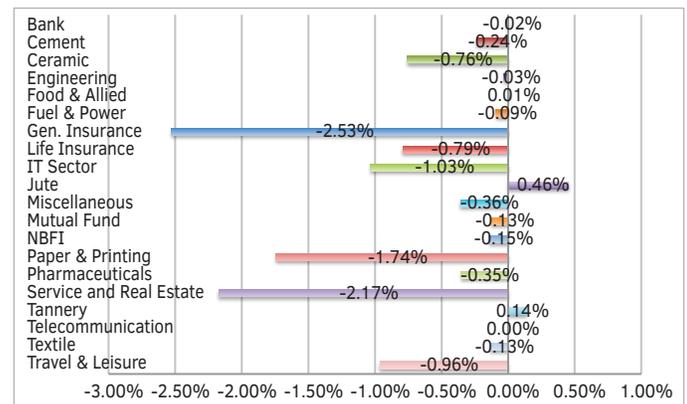


Figure 13: Sector Return

The AD ratio compares the number of stocks that increased in value to the number of stocks that decreased in value. By shedding light on the AD ratio of this month, it is evident that the 20-trading day denoted a downtrend in the market throughout the month but improved on the last week of the month.

AD ratio

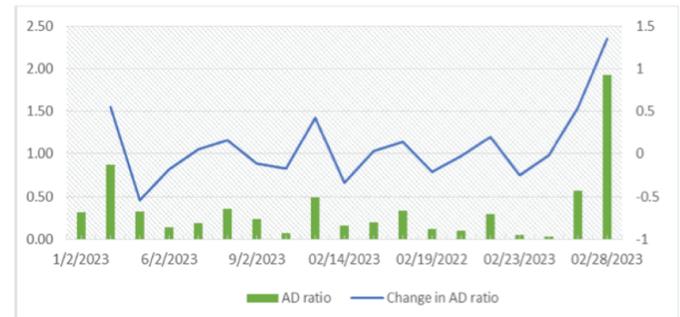


Figure 14: AD Ratio

The market lost points on the maximum trading days of the month. Investment in the market decreased due to the panic among investors regarding political issues, instability in foreign affairs, and industry-specific stricken news. Increasing idiosyncratic events at the brokerage and asset management companies of the country burgeoned the panic. Investment in the market dropped due to investors' inertia to invest in stocks in fear of having their investment stuck for a long time. Institutional and eligible investors inhibited their exposure, causing many of the stocks to be on the floor price. The edict to allow low-cap securities to move above or below the floor price could be the reason for major issues in the declining trend.

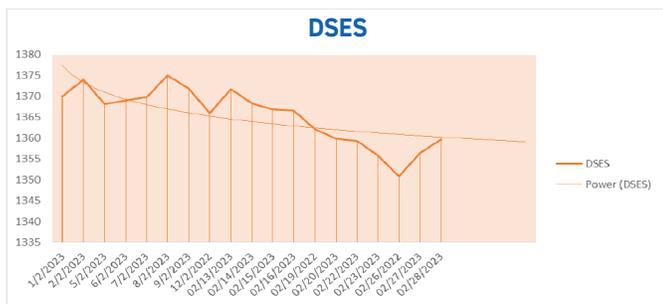


Figure 15: DSEX and DSES

The decrease in the flows of foreign remittances, and the widening trade deficit, along with the free fall in foreign exchange reserves to \$33 billion, have created a panic among investors to return to the capital market. Overall, 11 IPOs are in the pipeline to penetrate the market, waiting for approval from BSEC.

Analyzing the returns of the world's major indices, it is apparent that China, Japan, and the UK all showed a positive return in February compared to that of Bangladesh, India, and the USA. Among them, China's SSEC index had a positive return of 2.24% greater than any other countries in comparison. In terms of global commodity futures markets, GOLD lost the maximum value of 4.48%. Only the Natural Gas price has bucked the negative trend and increased by 3.56% over the month of February.

Performance comparison of World's Major Index

Country	Index Name	Return
China	SSEC	2.24%
India	BSESENSEX	-0.99%
USA	DOWJONES	-0.91%
Japan	Nikkei 225	0.43%
UK	FTSE 250	0.25%
Bangladesh	DSEX	-0.96%

Figure 16: Performance comparison of World's Major Index

Performance comparison of commodity futures	
Commodity name	Return
SUGAR	-0.50%
NATURAL GAS	3.56%
COTTON	-1.28%
SOYBEAN	-0.66%
GOLD	-4.48%
CRUDEOIL	-0.19%

Figure 17: Performance comparison of commodity futures

The market PE ratio of the Dhaka Stock Exchange this month was 28 on average. GENEXIL was in the top position based on turnover; ALHAJTEX was the top gainer in terms of price increase, whereas PRAGATILIFEINSURANCE was the top loser. In terms of sector returns, Jute and Tannery were the only two sectors with positive returns this month. Aggregately, the average trade volume and the average trade value decreased by 27% and 11%, respectively, along with a 0.66% increase in the average market capitalization compared to the previous month. A piece of positive news this month for the economy of Bangladesh is that foreign remittances have crossed USD 100 billion for the first time in Bangladesh, and the loan money from the IMF is easing the pressure on the foreign exchange reserve.

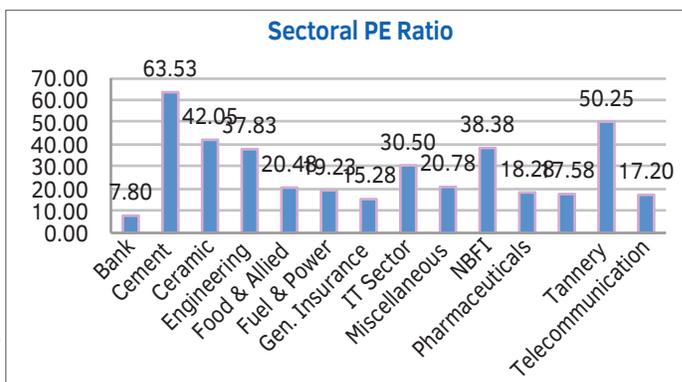


Figure 18: Sectoral PE Ratio

Top Gainer and Loser

Turnover			Gainer		Loser	
Sl	Stock	Turnover	Sl	Stock	Sl	Stock
1	GENEXIL	865.14	1	ALHAJTEX	1	PRAGATILIF
		-15.73%		30.20%		-25.12%
2	BSC	718.9	2	MONNOAGML	2	ICICL
		2.24%		28.85%		-21.29%
3	SPCERAMICS	510	3	ADNTEL	3	EHL
		-7.71%		22.61%		-16.33%
4	SEAPEARL	405.24	4	APEXFOOT	4	RAHIMTEXT
		4.53%		15.38%		-16.24%
5	OLYMPIC	403.12	5	GEMINISEA	5	MEGHNAINS
		8.07%		14.10%		-15.77%

Figure 19: Top Gainer and Loser

BSEC has already taken several actions to improve market performance. The approval of two maiden ETFs, LB Multi Asset Income ETF and FAM DG Bengal Tiger Exchange Traded Fund, with target sizes of Tk. 100 crore and Tk. 50 crore, respectively, is scintillating new hopes for the market's development. Though this month was not good for the investors, it can be said that the positive reinforcements taken by the policymakers of Bangladesh and the increased participation of institutional investors will bring heydays for the capital market of Bangladesh.

The Dip on Falling Imports and A Liquidity Crisis in The Banking Sector Tumbled Private Sector Credit Growth to The Lowest in Nine Months.



Total deposits have increased by around 5.66 percent Year on Year (YoY) as of December 2022, with demand deposits and time deposits growing by 9.36 percent and 5.16 percent, respectively [Table-01].

Total bank credits have scaled up by 8.10 percent annually. Advances of the banks grew by 14.2 percent, whereas both Bills and Investments decreased by 6.15 percent and 11.66 percent, respectively [Table-01].

Table 1: Deposits Held in DMBs and Bank Credit

Deposits Held in DMBs (Taka in Million)					
Items	Dec 2022	Nov 2022	Dec 2021	Percentage Changes	
				Dec 2022 over Nov 2022	Dec 2022 over Dec 2021
Demand Deposits	1,837,414	1,795,780	1,680,186	2.32	9.36
Time Deposits	13,054,277	13,073,101	12,413,240	-0.14	5.16
Total	14,891,691	14,868,881	14,093,426	0.15	5.66

Bank Credits (Taka in million)					
Items	Nov 2022	Oct 2022	Nov 2021	Percentage Changes	
				Nov 2022 over Oct 2022	Nov 2022 over Nov 2021
Advances	13,857,094	13,676,662	12,062,433	1.32	14.88
Bills (Import & Inlands)	325,573	326,792	322,462	-0.37	0.96
Investments	3,359,570	3,451,886	3,429,420	-2.67	-2.04
Total	17,542,237	17,455,340	15,814,315	0.5	10.93

Notes: 1. Deposits exclude Interbank Deposits and Government Deposits, 2. Advances include Loans & Advance, Money at Call, Balances & R. Repo with NBFIs' & Accrued Interest, 3. Investments include Treasury Bills, Treasury Bonds, Share & Securities with accrued interest.

Call money rates in February witnessed downward sloping with a monthly average of 6.17 percent [Figure 20]. The nominal loan rate and deposit rate, which average out to 7.12 percent and 4.07 percent, respectively, have signaled to pick up further in December 2022 [Figure 20].

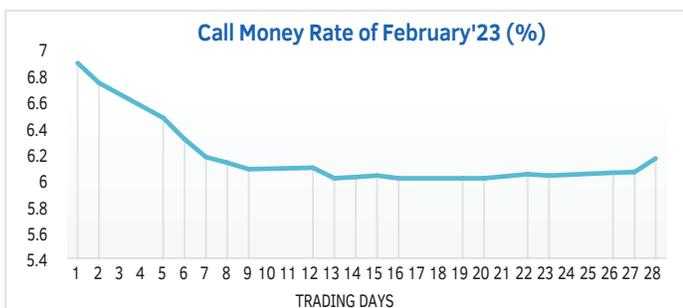


Figure 19: Call Money Rate of January (%)

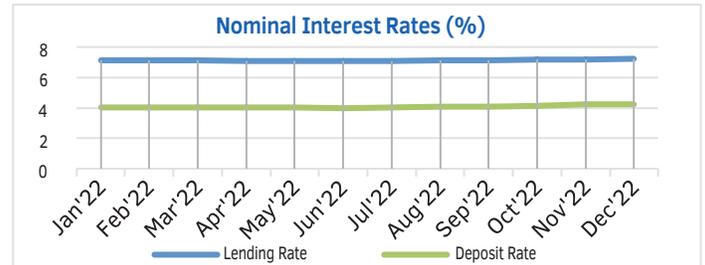


Figure 20: Nominal Interest Rate

Both the cost of funds and adjusted cost of funds remained high and stroked at 6.59 and 7.55 percent, respectively, in December 2022 [Figure 21]. Government borrowing from the banks stood at 34,590 crores between July and January of FY23, against the target of 106,334 crore [Figure 21].

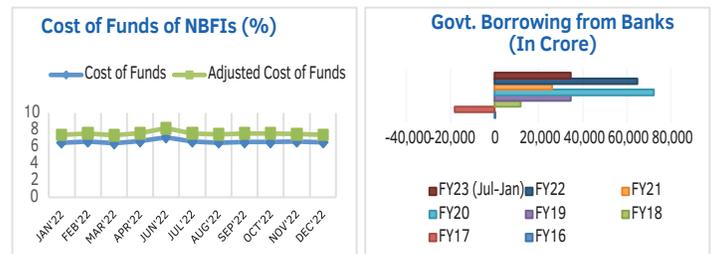


Figure 21: Cost of Funds of NBFIs and Govt. Domestic Borrowing

Private sector credit growth remained sluggish and touched 12.62 percent as of January 2023 [Figure 22].

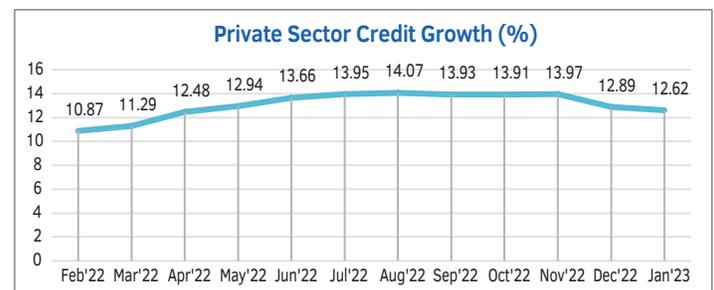


Figure 22: Private Sector Credit Growth

As of February 2023, the yields on T-Bills with terms of 91, 181, and 364 days were 6.45 percent, 7.10 percent, and 7.50 percent, respectively [Figure 23]. The yields on the 2, 5, 10, 15, and 20 year T-Bonds hit 8.13, 8.21, 8.34, 8.70, and 8.80 percent respectively [Figure 23].

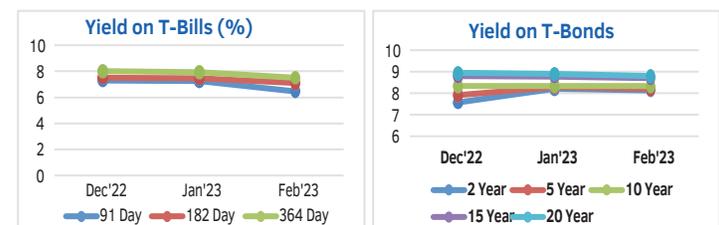


Figure 23: Yields on T-Bills and T-Bonds

Trends in Financial Inclusion and Digital Finance Statistics

As of December 2022, there were around 6.25 million internet banking subscribers, which is an increase of 37.36 percent year over year [Figure 24]. The number of Mobile Financial Service (MFS) users remained buoyant and reached around 191.06 million as of December 2022.

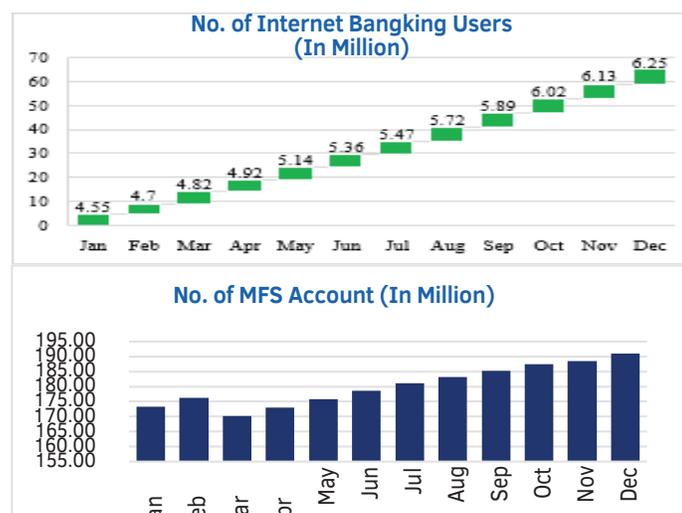


Figure 24: Number of Internet Banking Customers and MFS Users

Of the total transactions through the four gateways, users conducted around 69.90%, 12.03%, 8.61%, and 9.45% transactions through Automated Teller Machines (ATMs), Point of Sale (POS), Cash Recycling Machine (CRM), and e-commerce, respectively [Figure 25]. Rural people outpaced the urban in terms of opening agent banking accounts [Figure 25].

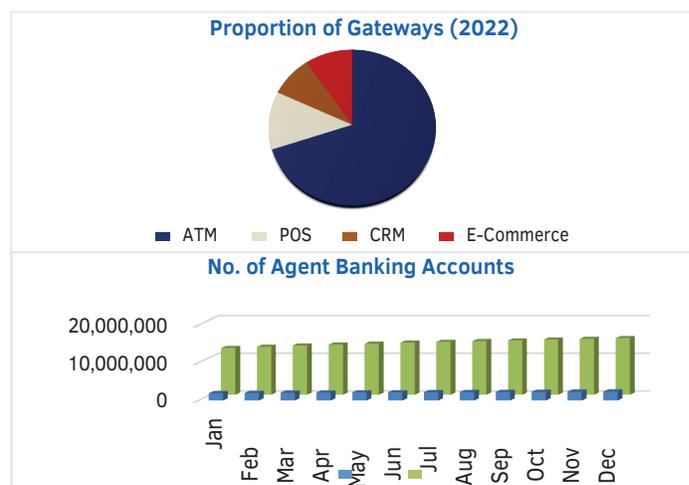


Figure 25: Proportion of Gateways and No. of Agent Banking Accounts

Key Takeaways

- > Recent inflationary pressure in Bangladesh has caused people with low or fixed incomes to withdraw their savings to pay for daily costs. This has led to a drop in bank deposits.
- > The downward slopping of call money rate signals improvement of liquidity crisis condition.
- > The removal of deposit floor may adjust the deposit rate upward.
- > The high cost of funds for NBFIs resulted from their heavy reliance on the call money market. According to experts, NBFIs should consider raising money by issuing bonds because the costs of medium- and long-term debt will be lower overall.
- > Government's borrowing from private banks could further stress the banking sector, already hit by a liquidity crunch.
- > Private sector credit growth fell to its lowest level in nine months because of the drop in imports and a liquidity crisis in the banking sector.
- > The wide access to the internet as well as the smart app developed by the banks have fostered internet banking, as evident from its consistent monthly growth.
- > The country now has over 19 crore accounts with Mobile Financial Services (MFS), mainly due to the growing use of digital payments and advancements in technology.
- > Out of the four gateways, people use ATMs owing to the widespread usage of cards, both debit and credit.
- > There are 5.6 times as many rural agents as there are urban agents, and there are around six times as many rural outlets as there are metropolitan outlets. This means that financial services through agent banking are largely available in rural areas. Moreover, compared to the conventional banking system, agent banking outlets are preferred for the distribution of microcredit loans.

Source: Bangladesh Bank Website



Gourav Roy

What does Chat Generative Pre-Trained Transformer (ChatGPT) Really Mean for Finance, Business, and the Economy of the Modern Era?



Insights

Introduction

Today's financial market is driven by technology and the swiftness of transactions. Almost every year, we get to find new boons and challenges in technologies that create scope for research for all financial market participants. The use of Artificial Intelligence is going to create an epochal transformation in this financial world.

The concept of Artificial Intelligence or simply AI stands on the ground of the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing, speech recognition, and machine vision. In general, AI systems work by ingesting large amounts of labeled training data, analyzing the data for correlations and patterns, and using these patterns to make predictions about future states. In this way, a chatbot can learn to produce lifelike exchanges with people, or an image recognition tool can learn to identify and describe objects in images by reviewing millions of examples.

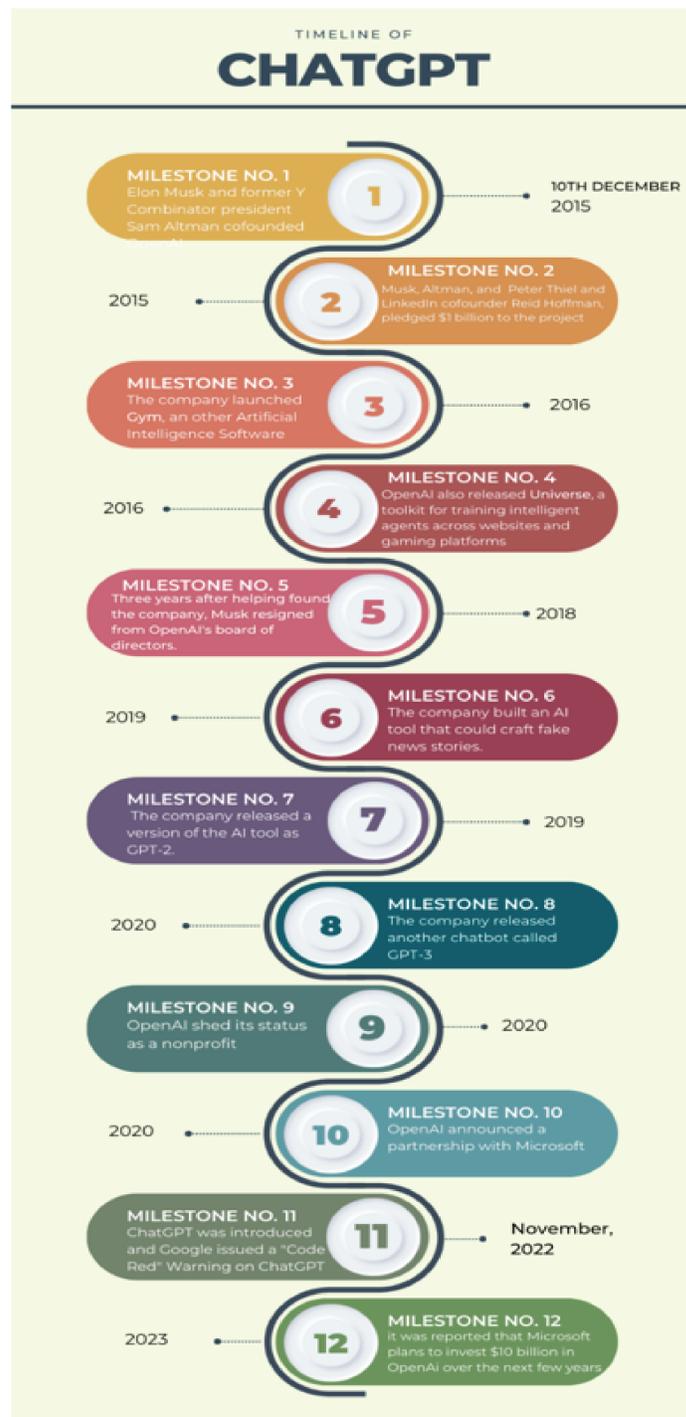
Concepts of ChatGPT

ChatGPT is a large language model developed by OpenAI, designed to generate human-like responses to natural language input. It is one of the most advanced conversational AI systems currently available, and is trained on massive amounts of text data using a deep learning approach called transformer architecture. The model is based on the Generative Pretrained Transformer (GPT) architecture, which has been trained on a vast corpus of text data from the internet, including books, websites, and other sources. The GPT architecture is a type of neural network that uses attention mechanisms to learn contextual relationships between words and phrases in the input text. The model is constantly being updated and improved by OpenAI's team of researchers, who are working to enhance its ability to understand and respond to human language in more natural and sophisticated ways.

Main Competitors of ChatGPT in AI Field

There are several competitors to ChatGPT in the market of conversational AI, including:

- 1. Google's LaMDA:** Google's LaMDA (Language Model for Dialogue Applications) is an AI system made to have open-ended conversations with people.



- 2. Google's Dialogflow:** A powerful chatbot development platform that uses machine learning and natural language processing to build intelligent conversational interfaces.
- 3. Amazon's Alexa:** A virtual assistant that uses natural language processing to understand and respond to user requests and commands.
- 4. Microsoft's Cortana:** A virtual assistant that uses machine learning and natural language processing to help users manage their tasks and activities.
- 5. IBM Watson:** A platform that provides a range of cognitive services, including natural language processing, machine learning, and data analytics, to build intelligent applications.
- 6. OpenAI's GPT-3:** An advanced language model that is designed to generate human-like responses to natural language inputs.

Each of these platforms has its own strengths and weaknesses, and the choice of which one to use depends on the specific needs and requirements of the user or organization.

Potential Impacts of ChatGPT on Business and Economics of Modern Era

ChatGPT has the potential to impact the modern economy and businesses in a number of ways, including:

- 1. Improved Customer Experiences:** Chatbots powered by ChatGPT can offer support, answer questions from customers, and make personalized recommendations, all of which enhance the customer experience. Customer loyalty and satisfaction may rise as a result, which may boost business expansion and earnings.
- 2. Enhanced Automation:** ChatGPT may be used to automate specific operations and procedures, which can help some sectors do away with the requirement for human labor. Businesses may be able to cut costs as a result and possibly improve productivity and efficiency.
- 3. New Insights and Predictions:** With huge datasets and ChatGPT, new insights and forecasts can be produced. It can be used, for instance, to estimate demand for goods and services or to analyze customer attitude and behavior using social media data. This can aid in decision-making and promote growth for firms.
- 4. Increased Productivity and Efficiency:** ChatGPT can assist firms in streamlining operations and increasing productivity, for instance by automating internal communication or customer assistance.
- 5. Competitive Advantage:** Companies that use ChatGPT technology early on may have an advantage over rivals, especially in sectors where the customer experience is a crucial differentiation.

How Finance and Banking Professionals Can Use ChatGPT?



Figure 26: Usage of Chat GPT for Finance and Banking Professionals

Discussion on Social Impact and Conclusion

Is the Chat GPT app a blessing or a curse for those who are having a hard time paying for their children's education? Time will only tell. The Chat GPT application will be excellent for lowering educational costs. It would be fantastic if the younger generation, who are glued to their smartphones, started reading quality literature using this instrument.

For years, there has been a decline in human employment. No one is willing to believe that the career prospects for individuals won't decline with this Chat GPT tool in this technological age where the news is lined up on your cell phone in numerous ways with wonderful information.

There are enormous opportunities for businesses to use tools like ChatGPT to improve their bottom line and create better customer experiences, but there are also some potential dangers with this technology. There are also potential privacy concerns. ChatGPT can be vulnerable to cybersecurity attacks, as it is connected to the internet and could potentially be used to spread malicious content or viruses. Malicious cybercriminals could also manipulate people into divulging personal information using the chatbot, then use that information for fraudulent purposes or for targeted phishing attacks.

However, ChatGPT is still a fairly new technology, and its features are likely to keep changing and getting better as time goes on.

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■ Infographic: Author Developed ■ Source: Bangladesh Bank

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