Financial Stability Review

2022

State Bank of Pakistan

FINANCIAL STABILITY REVIEW

2022

State Bank of Pakistan

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The Financial Stability Review (FSR) is the annual report of the Board of Directors of State Bank of Pakistan (SBP) prepared and published in terms of requirements prescribed in sub section (3) of section 39 of the State Bank of Pakistan Act, 1956 as amended in January 2022.

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Governor's Message

Global economy saw a sharp deceleration and buildup of significant challenges in 2022, as the lingering effects of supply chain disruptions and commodity price pressures were further compounded by the outbreak of Russia-Ukraine war. Central banks responded by sharply raising the policy rates to rein in the persisting inflationary pressures. Consequently, the global financial conditions tightened further and developing economies, in particular, faced external account pressures.

The stress in global economy accentuated Pakistan's economic challenges of external and fiscal account deficits and high inflation. The situation was further aggravated by the unprecedented flooding of Q3CY22 and delays in the completion of IMF program reviews. To contain rising macroeconomic imbalances and inflation, SBP adopted various stabilization measures including hike in policy rate, macro-prudential policy adjustments and administrative measures. Resultantly, the current account deficit started to improve, however economic activities started to slow down from H2CY22 onwards.

Despite these rising macroeconomic challenges, the soundness of banking and financial sector of Pakistan remained steady. Particularly, the banking sector continued to grow, posted higher earnings and observed improvement in capital adequacy ratio. While private sector credit moderated, the asset quality of the sector remained stable due to the prudent lending policies of banks. Most of the non-performing loan ratios were recorded at one of the lowest levels of last two decades and the latest performance indicators of corporate sector also depicted an overall steady debt repayment capacity of firms. However, banks' exposure to the government continued to increase in the context of fiscal strains while deceleration in deposits increased banks' reliance on borrowings.

The extant environment entails a number of vulnerabilities for the financial sector, nevertheless. The economic slowdown, elevated inflation and high interest rates portend pressures on repayment capacity of borrowers. Recent turmoil in the US banking sector also highlights a new perspective on hidden vulnerabilities that could emerge in the context of rapid changes in financial conditions and propagated by weaknesses in banks' business models. Besides, climate change and cyber security are also leading emerging risks, requiring enhanced focus of both the policymakers and industry.

In the backdrop of current challenging macro environment, it is important to proactively assess the resilience of the banking sector. As per our latest statistics and forward looking assessment, the banking sector in general, and large systemically important banks in particular, show adequate resilience to hypothetical shocks to specific risk factors and economic conditions. Scenario analysis shows that the capital adequacy ratio of banking sector against the assumed shocks remains above the minimum standard over a projected horizon of three years. However, to revive economic activities and ensure resilience of the financial sector on sustainable basis, the government needs to take appropriate measures to address macroeconomic vulnerabilities including measures to improve productivity, export competitiveness, fiscal consolidation and debt sustainability.

SBP's supervisory process proactively monitors and addresses both firm-specific issues and system-wide risks; besides, there are comprehensive safety nets and bank resolution arrangements to effectively manage any stress in the sector. This framework has worked well against various stress episodes in the past; however, SBP strives to keep the framework consistent with needs of the hour and is making necessary enhancements to ensure financial stability and promote access to finance. Besides various other regulatory developments, Environmental and Social Risk Management Implementation Manual has been issued to assist the industry in managing its underlying risks. Moreover, to promote digital financial services, the second phase of Raast was launched to enable instant Person-to-Person fund transfers, and a licensing and regulatory framework has been introduced for digital banks to promote digital banking in a sustainable manner. These initiatives have attracted overwhelming response from customers and investors.

In the face of challenging external and domestic environment, SBP remains vigilant to the evolving economic and financial dynamics. The Bank stands ready to take necessary measures in a timely manner to effectively address the emerging risks and discharge its mandate of preserving financial stability and supporting economic growth through sustainable flow of credit and continuous provision of financial services.

Jameel Ahmad

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We are also grateful to the Securities & Exchange Commission of Pakistan (**SECP**), National Clearing Company of Pakistan (**NCCPL**), Mutual Funds Association of Pakistan (**MUFAP**) and Pakistan Stock Exchange (**PSX**) for providing relevant data, technical information and comments on the relevant chapters/sections of the report.

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Data Convention and Coverage

The FSR 2022 uses CY for the Calendar Year, FY for the Fiscal Year (starting in July of the previous CY and ending in June of the current CY), Q1-Q4 for the four quarters of the corresponding CY or FY and H1-H2 for the two halves of a CY or FY, as the case may be. Exact dates are given in long form (e.g., November 29, 2021) while specific months are given in both short (e.g., Sep-21) and long forms (e.g., September 2021).

The review is generally based on the data reported in the unaudited or audited accounts (where available) of financial institutions for different components as follows:

- Banking sector (conventional and Islamic banks), Development Finance Institutions (**DFIs**), Microfinance Banks (**MFBs**) and Payment System are based on un-audited financial statements reported to SBP through Quarterly Reporting Chart of Accounts (**RCOA**) and various other returns.
- Non-Bank Financial Institutions (**NBFIs**) is based on quarterly reports submitted to Securities & Exchange Commission of Pakistan (**SECP**) through Specialized Companies Return System (**SCRS**) and data extracted from the website of Mutual Funds Association of Pakistan (**MUFAP**).
- Insurance and Takaful companies is based on audited and unaudited financial statements extracted from the insurers' websites and regulatory returns submitted to SECP.

The data pertaining to the corporate sector has been obtained from SECP, SBP, PSX, Bloomberg and the financial statements of companies.

The Overview

The year 2022 was marked by a deterioration in domestic economic activity, reflecting partly the impact of slowing global growth, tightening in financial conditions, intensification of the domestic imbalances and political instability. In face of these challenges, however, the financial sector of Pakistan continued to exhibit operational and financial resilience. The consolidated asset base of Pakistan's financial sector increased by 18.3 percent in CY22, with major contribution coming from the banking sector. However, the financial depth in terms of assets-to-GDP ratio, which is already low among peer countries,[1] further declined to 61. 3 percent on the back of relatively higher inflation **(Table 1)**.

After a strong post-pandemic recovery of 6.3 percent in 2021, global economic growth moderated to 3.4 percent in 2022 because of various economic and geopolitical headwinds.[2] The continuous buildup of inflationary pressures and global supply chain disruptions were compounded by the conflict between Russia and Ukraine — two key players in the global supply chain of various food and energy items — and recurrent episodes of COVID-19 in China. Further, a reversal of monetary policy stance to fight inflation, especially by Advanced Economies (AEs), tightened the global financial conditions. In the face of stressed macro-financial conditions and heightened uncertainty, global financial markets remained increasingly volatile.

Table 1: Assets Composition of Financial Sector

	CY19	CY20	CY21	CY22
Billion Rupees				
MFBs	380	494	582	753
DFIs	377	439	539	1,431
NBFIs	1,339	1,700	2,023	2,563
Insurance	1,710	1,938	2,143	2,460
CDNS	3,998	4,248	3,884	3,390
Banks	21,991	25,124	30,058	35,796
Total Assets	**29,795**	**33,943**	**39,229**	**46,393**
YoY Asset Growth (Percent)				
MFBs	15.9	30.0	17.8	29.4
DFIs	58.1	16.5	22.6	165.7
NBFIs	13.0	27.0	19.0	26.7
Insurance	14.5	13.4	10.5	14.8
CDNS	9.4	6.2	-8.5	-12.7
Banks	11.7	14.2	19.6	19.1
Overall Financial Sector	**12.1**	**13.9**	**15.6**	**18.3**
Percentage Share in Total Assets				
MFBs	1.28	1.46	1.48	1.62
DFIs	1.27	1.29	1.37	3.09
NBFIs	4.49	5.01	5.16	5.52
Insurance	5.74	5.71	5.46	5.30
CDNS	13.42	12.51	9.90	7.31
Banks	**73.81**	**74.02**	**76.62**	**77.16**
Assets as a Percentage of GDP*				
MFBs	0.8	1.0	1.0	1.0
DFIs	0.8	0.8	0.9	1.9
NBFIs	2.9	3.3	3.3	3.4
Insurance	3.7	3.8	3.5	3.3
CDNS	8.8	8.2	6.3	4.5
Banks	48.2	48.6	49.1	47.3
Overall Assets	**65.2**	**65.7**	**64.1**	**61.3**

Note: * GDP= Nominal GDP at market prices (2015-16 =100)
Source: SBP, SECP, CDNS & PBS

These global developments accentuated the domestic macroeconomic challenges and put further pressure on building imbalances that are a consequence of domestic structural issues.

[1] Pakistan's financial deepening indicators are relatively low compared to regional countries. For further details, please refer Governor's Annual Report FY2021-22.
[2] International Monetary Fund. (2023). World Economic Outlook: A Rocky Recovery. *Washington, April.* For details, please visit https://www.imf.org/en/Publications/WEO/Issues/2023/04/11/world-economic-outlook-april-2023

Besides rising global commodity prices, high import demand, lower workers' remittances, and low export competitiveness and productivity kept external account balance under stress, while external financing also dried up due to delay in completion of the 9th review under IMF's Extended Fund Facility (EFF) program and tightening of global financial conditions. In the face of these pressures, PKR substantially depreciated over the year. This, coupled with higher international commodity prices and supply side shocks, which were also driven by unprecedented rains and flooding of Q3CY22, pushed average inflation to 19.9 percent in the year under review. On the other hand, fiscal balance also remained under pressure due to slowdown in tax revenue amid subdued economic activities and rising debt servicing costs that substantially increased government's reliance on bank borrowing. Amid these developments, Pakistan's sovereign credit rating was also downgraded by international credit rating agencies.

Keeping in view the rising imbalances, the policy tightening that ensued in later part of CY21 got further traction during CY22 and a number of policy interventions were instituted by SBP and the government. For instance, policy rate was further increased by 625 basis points during CY22 to 16.0 percent, and the hike continued in the post review period.[3] Other actions included macro-prudential measures pertaining to consumer financing and administrative measures to contain external imbalance.

As a result of policy tightening and demand contraction measures, current account deficit improved towards the year end and business activity started to slow down. For example, the Business Confidence Index (BCI) in H2CY22 declined to its lowest level since April 2020, and Large Scale Manufacturing's (**LSM**) average output for CY22 decelerated to 6.0 percent from 17.5 percent in CY21. Accordingly, the estimated economic growth for FY23 lowered to 0.29 percent, compared to 6.1 percent growth in FY22 (see **Chapter 1**).

Domestic **Financial Markets** experienced substantial volatility and stress during CY22. Particularly, FX market faced stress during second half of CY22 as external account came under pressure due to delay in the completion of IMF program reviews and drying up of external inflows. Also, money market witnessed stress owing to increase in government borrowings from banks and noticeable growth in private sector credit, while the pace of deposit mobilization decelerated. However, SBP's liquidity management kept PKR liquidity pressures under check. Similarly, bearish sentiments prevailed in equity market for the most part of CY22 and KSE-100 index fell by 9.4 percent (see **Chapter 2)**.

Despite challenging conditions**, banking sector** stability indicators largely remained steady during CY22. The asset base grew by 19.1 percent reflecting the growth momentum of previous years. However, a surge in investment in government securities principally supported this growth as banks' exposure to government reached 55.5 percent of the asset base. Private sector advances, despite slight moderation, increased at a notable pace as higher input prices augmented the growth in working capital finance. On the funding side, banks' reliance on borrowings rose further due to a significant deceleration in deposits.

The credit risk of the banking sector remained contained during CY22. Non-performing loans (NPLs) grew at a slower pace than advances; in addition, banks maintained adequate provisions to cover loan losses. The gross non-performing loans ratio (**GNPLR**) lowered to 7.3 percent in CY22 from 7.9 percent last year, while the net NPLs ratio (**NNPLR**) slightly inched up to 0.8 percent from 0.7 percent. The residual risk, i.e. NNPLR and NNPL to capital ratio however remained at one of its lowest levels of last two

[3] Policy rate has been increased by 500 bps in CY23 so far.

decades. The low delinquencies in the present stressed macroeconomic conditions can be ascribed to both a general tendency in banks' lending strategy to prefer firms having better credit worthiness and established track record~~,~~ as well as corporate sector's ample liquidity and capital cushions that were also supported by their performance during last year.

Market risk profile of banking sector presented a mixed picture during CY22. While interest rate risk mainly drove the overall market risk, equity and FX risks remained subdued due to conservative regulatory standards. During the year, banks' holding of government securities significantly increased. However, banking sector was generally able to sustain the impacts of rising interest rates, as banks effectively managed the maturity mismatches and increased the holding of floating-rate instruments.

Banks' asset-based liquidity indicators remained satisfactory. The Basel-based liquidity indicators i.e. liquidity coverage ratio (LCR) and net stable funding ratio (NSFR) stood at 216 percent and 166 percent, respectively at end CY22. However, market liquidity conditions remained under stress due to slower growth in deposits vis-à-vis higher demand for bank credit particularly from the government. While inflationary pressures and economic slowdown affected the depositors' saving capacity and credit demand, banks' asset-liability management (ALM) strategy and incentive to mobilize deposits could also have been influenced by the tax policy, which linked tax rate on income from government securities to banks' advances to deposits ratio (**ADR**).[4]

Banking sector's profitability increased during CY22, primarily due to rise in interest income on investments in government securities, which contributed around 60.0 percent of total interest income. The increase in bottom line was however kept in check by stronger growth in interest expenses and substantially higher tax charges.[5] Accordingly, ROA posted a fractional improvement to 1.01 percent in CY22 compared to 0.96 percent in CY21, while ROE improved to 16.9 percent from 14.0 percent in last year. With growth in capital base, capital adequacy ratio (CAR) improved to 17.0 percent, remaining well above the minimum regulatory requirement of 11.5 percent. Growth in earnings and contained delinquencies in loan portfolio backed by banks' prudent lending practices augmented the solvency of the banking sector (see **Chapter 3)**.

Islamic Banking Institutions (IBIs) continued their growth momentum as their asset base expanded by 29.6 percent in CY22, while their share rose to 22.0 percent. In line with sectoral trend, the expansion in the asset base was primarily driven by investments as Government allocated new assets for issuance of Ijara Sukuk. On the funding side, the deposit mobilization was robust while reliance on borrowings also remained sizable. Asset quality indicators of IBIs improved further and remained better than their conventional counterparts. Earnings growth rebounded from last year and augmented the bottom-line indicators as well. Accordingly, the solvency position further strengthened during CY22, manifesting the enhanced resilience of IBIs **(see section on Islamic Banking in Chapter 3)**. In line with the drive to transform banking system to Sharia-compliant mode, Islamic banking industry together with its market infrastructure and support mechanisms has come a long way over the years. Federal Shari'at Court in its judgment of April 2022 has ordered the full conversion of banking system to Islamic mode. In this connection, a brief review of historical perspective on Islamic banking, key challenges and opportunities of conversion to Islamic mode, and SBP's strategy thereon is given in **Box 3.2** "**SBP's Strategy to transform the banking sector to Islamic mode – key challenges and opportunities**".

[4] The ADR-linked tax policy entailed progressively higher tax rates for banks with lower ADR. However, the policy has been withdrawn for tax year 2024.

[5] Tax charges to pre-tax profit ratio increased to 52.1 percent in CY22 from 41.4 percent last year.

Microfinance banks (MFBs) remained under stress due to lingering effects of COVID that were further compounded by deterioration in macroeconomic conditions and flooding in third quarter of CY22. Asset quality indicators deteriorated as GNPLR rose to 6.7 percent in CY22 from 5.2 percent in CY21, while NNPLR inched up to 1.5 percent from 1.2 percent. The sector incurred (after tax) loss of PKR 17.2 billion due to high provisioning and operating expenses vis-à-vis contained incomes. Accordingly, the overall CAR of MFBs fell to 10.9 percent by end of CY22 (see **Chapter 5**).

Non-Bank Financial Sector demonstrated strong growth during CY22. **Development Finance Institutions' (DFIs)** balance sheet expanded by 165.7 percent compared to 22.6 percent growth in CY21. Investment in government securities primarily drove up this expansion on the back of borrowings from SBP and scheduled banks, while advances also observed noticeable growth. Due to an increase in advances and higher recoveries against NPLs, asset quality indicators also improved over the year. Earnings posted improvement while CAR, despite slight moderation, remained strong at 36.5 percent (see **Chapter 6.1**).

Non-Bank Financial Institutions (NBFIs) witnessed growth of 26.7 percent in CY22. This strong performance was mainly contributed by mutual funds industry, which also constitutes the major part, i.e. 61.4 percent of the sector. In the backdrop of high interest rate environment, money-market and income funds showed impressive growth while equity funds observed redemptions due to lackluster performance of the equity market. Moreover, Real Estate Investment Trust (**REIT**) segment showed significant growth during CY22 due to enabling policy environment and operationalization of new schemes. The lending segment of NBFIs also manifested strong expansion of 21.6 percent supported by investment finance companies (IFCs) and non-bank microfinance companies (NBMFCs). The latter, however, faced increased stress due to heavy flooding in Q3CY22. The interconnectedness between bank and mutual funds industry exists along different dimensions, but the associated risks remained manageable during the year under review (see **Chapter 6.2**).

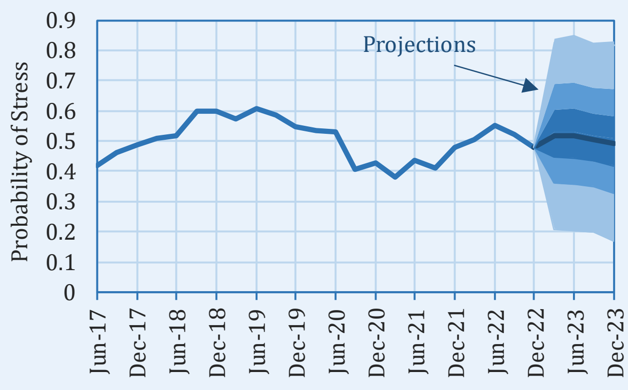
Insurance sector posted 14.8 percent growth during CY22, mainly on the back of life insurance segment that also dominates the sector in terms of asset base and premium. Although, life segment witnessed increase in groups claims and individual surrenders, growth in investment income augmented the bottom line. The non-life segment, on the other hand, faced some deterioration in performance indicators as the claims increased due to flooding and natural calamities while cost of repairing fixed assets also increased due to inflationary pressures (see **Chapter 6.3**).

The **Financial Market Infrastructures (FMIs)** remained robust and resilient during CY22. E-banking transactions continued to gain traction and augmented the robust growth in retail payments while volume of paper-based transactions continued to decline, reflecting customers' increased preference for e-banking. The performance of PRISM – large value payment system – in terms of business activity moderated owing to economic slowdown. Importantly, SBP implemented the second phase of Raast during CY22, enabling instant and free Person-to-Person (P2P) fund transfers. At the same time, a comprehensive licensing and regulatory framework for digital banks was also issued with a view to promote digital financial services in a prudent manner. Moreover, a number of improvements were made in cybersecurity framework (see **Chapter 8**). It is important to note that the growth of digital financial services (DFS) has accelerated over the last few years. Realizing the significant role that technology and innovation can play in revolutionizing the provision of financial services, SBP and policymakers are strategizing to leverage the technology to promote policy objectives of inclusion, efficiency and convenience of customers in a sustainable manner. However, as certain innovations like private crypto assets involve a number of implications for the economy, financial institutions and customers, SBP advised the regulated financial institutions to refrain from dealing in crypto assets, while cautioning the general public about the risks related to such assets and products (see **Special Section in Chapter 8**).

The **Non-Financial Corporate Sector** posted a moderate decline in earnings due to the elevated economic stress and an increase in taxation and financing costs. Nevertheless, the overall financial standing of top 100 listed companies remained steady and corporate sector in general continued to serve its obligations to financial institutions. Textiles, cement, and automobiles sectors experienced decline in sales while performance of other sectors such as petroleum (exploration and production), chemicals & pharmaceutical, and energy sectors remained robust. Also, the top 30 borrowing groups of the banking sector continued to show stable solvency position and adequate debt repayment capacity during the year under review, despite facing some deceleration in financial performance (see **Chapter 7** & **Box 7.1**).

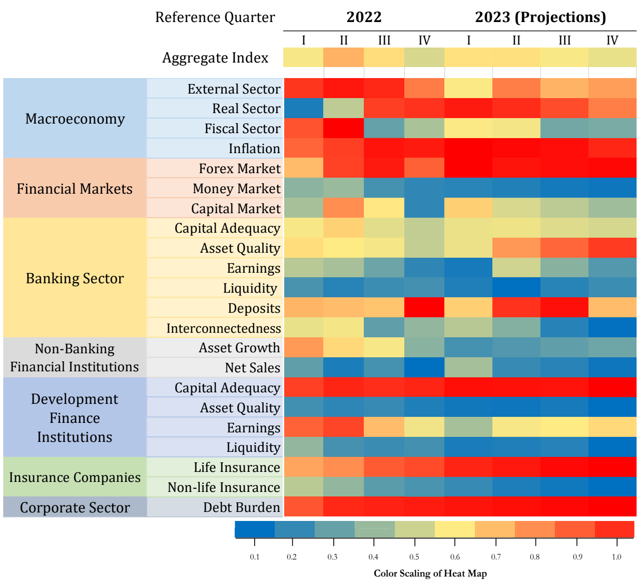
The **financial sector vulnerability index and heat map** reveal that risks to financial stability rose during H1CY22 due to rising macroeconomic imbalances.[6] In H2CY22, although the stress in macroeconomic variables persisted, the financial sector's key indicators posted improvements vis-à-vis their historical trends. Nevertheless, overall stress may remain relatively elevated in CY23 in face of tighter macro-financial conditions (**Chart 1A and 1B**).

Chart 1A: Financial Sector Vulnerability Index (FSVI)



Source: SBP Staff Estimates

Chart 1B: Financial Sector Heat Map



Source: SBP Staff Estimates

Going forward, financial stability dynamics would be contingent upon evolving conditions at international and domestic fronts. While the conflict is lingering between Russia and Ukraine, core inflation in many countries remains sticky though global headline inflation has declined. The global economy is likely to observe another year of low economic growth: it is expected to grow by 2.8 percent in 2023—down from 3.4 percent in 2022.[7] In this backdrop, any further aggravation in the geopolitical conflict or monetary tightening by

[6] Financial Sector Vulnerability Index (FSVI) represents the equal-weighted average risk arising from the key sectors based on their historical key *statistics*. It covers banking sector, DFIs, NBFIs, insurance sector, non-financial corporate sector, financial markets, and macro economy (for details please refer Appendix-B). The future path for the variables is model based and underlying assumptions are consistent with Baseline Scenario (business as usual) used for scenario analysis in Chapter 4.

[7] International Monetary Fund. (2023). World Economic Outlook: A Rocky Recovery. *Washington, April.* For details, please visit https://www.imf.org/en/Publications/WEO/Issues/2023/04/11/world-economic-outlook-april-2023

AE central banks could bear repercussions for external account, inflation and economic activity in Pakistan.

On the domestic front, the current account deficit has narrowed considerably due to sizable import compression; however, the overall external account position continues to remain under stress.[8] Furthermore, the record high inflation and prolonged delay in the completion of ninth review under IMF program are key challenges to the economic outlook. The pace of economic activities has decelerated; which is reflected in the lower estimated growth rate of 0.29 percent for FY23.

In the latest wave of Systemic Risk Survey **(SRS),** market participants have identified political uncertainty as one of the leading risks facing the financial system along with foreign exchange rate risk, inflation, and energy crisis (**see Box 1**).

The assessment of macroeconomic dynamics reveals a number of challenges for the banking sector. The repayment capacity of borrowers may come under stress, leading to asset quality concerns for the banks. Particularly, the business model of MFBs needs a review to improve performance of this important sector. Also, banks' earnings from advances and non-interest incomes are likely to moderate due to subdued economic activities and banks' increased risk aversion towards private sector credit. While the prevailing high return on government securities and strong government financing needs can augment banks' earnings, increased public sector exposure has a number of implications including crowding out of private sector credit and repricing/ revaluation risks, among others. Moreover, credit demand, especially from government, will require enhanced efforts for mobilization of deposits to meet the liquidity needs of the system. In this regard, there is also a need for the government to diversify its sources of funding and tap alternate sources including enhancing tax revenues to achieve fiscal consolidation. In addition, to revive economic activities, the government needs to take appropriate policy measures to improve productivity, export competitiveness and debt sustainability.

Dynamics of financial stability are subject to quite uncertain and complex factors; therefore, SBP regularly conducts scenario analysis on periodic basis to identify the likely path of banking sector's soundness indicators over next two to three years in different assumed hypothetical scenarios. The results of the latest macro stress tests suggest that in the face of continued hypothetical stress, the banking sector may experience increase in NPLs.

However, the banking sector in general and the large systemically important banks in particular, are expected to show sufficient resilience to withstand assumed severe macroeconomic shocks. The overall CAR of the sector is likely to remain above the minimum regulatory requirement under both business-as-usual scenario (which already contains elements of significant strain) and a stressed macroeconomic scenario (which augments baseline with hypothetical macro-financial shocks) over the projected three-year horizon (see **Chapter 4**).

The banking sector has ample capital and liquidity cushions as well as risk management capabilities which have been built over decades under a prudent regulatory framework and tested against a variety of severe stresses in the past. Nevertheless, recent turmoil in the US banking sector highlights a new perspective on vulnerabilities that could emerge in the context of rapid changes in financial conditions and weaknesses in firms' business models. Moreover, repeated episodes of severe weather events in Pakistan and heavy losses over the last few years highlight the significance of risks posed by climate change for both the economy and financial sector. Similarly, there is a global trend of rise in technology and cyber risks due to increased digitalization and growth in digital financial

[8] SBP, Monetary Policy Statement , April 2023.

services. While regulatory guidance and surveillance continue to focus on these emerging risks, financial institutions also need to improve operational resilience by proactively assessing and mitigating these emerging, as well as conventional, risks by appropriately strengthening risk management capacities and building necessary financial cushions.

Reassuringly, SBP's supervisory framework proactively monitors and assesses both firm-specific and system-wide risks to financial stability and takes corrective actions to address these risks. A comprehensive safety net framework is also in place to preserve the general confidence in banking system and safeguard the soundness of institutions against financial strains.[9] This framework is being regularly updated to remain consistent with market conditions and emerging best practices. During the year under review, SBP took a number of measures to improve its supervisory regime in key risk areas, especially in respect of climate risk, cyber security, contingency planning and crisis preparedness along with general supervisory capacity (see **Appendix-A**).

SBP is cognizant of the prevailing risks. With the available toolkit and capabilities, it stands prepared to take necessary and timely measures to preserve financial stability and support economic growth by ensuring smooth supply of credit and financial services in the economy.

[9] Please refer to Box 3.2 (Supervisory and crisis management framework of SBP) of FSR 2021 for further details.

Box 1: SBP's Systemic Risk Survey-11th Wave (January 2023)

(Disclaimer: The results presented here represent the opinion of the respondents of the survey and do not reflect the views of the State Bank of Pakistan (SBP)).

SBP conducted the 11th wave of its biannual Systemic Risk Survey (**SRS**) in January 2023. The survey aims to capture the market participants' independent perceptions about risks and gauge their confidence in the stability of the financial system. The survey is designed to measure the extent of present and future (over the next six months) risk perceptions of the respondents related to the five broad categories of global, macroeconomic, financial markets, institutional, and general risk.

The respondents of the survey include senior executives of financial institutions, financial journalists, and others. Encouragingly, the number of respondents rose to 215 (101 in 10th Wave) with a response rate of 53 percent (51 percent in the 10th wave).

Summary of Results:

1. At present, on aggregate level, the respondents perceive "*Financial Market Risk*" and "*Domestic Macroeconomic Risk*" to be the key sources of risk to the financial system of Pakistan (**Chart A**). For the next six months, the perception remains almost the same as the respondents perceive these two sources of risks to persist (**Chart B**).

2. Among all the risks at present, the highest cited risk is the "*Foreign Exchange Rate Risk*" followed by "*Increase in Domestic Inflation*" and "*Energy Crisis (Electricity and Fuel Shortages)*". Respondents expect these risks as well as *"Political Uncertainty"* to remain high in next six months (**Chart C**).

3. The respondents continue to exhibit their confidence in the stability of the banking sector as well as on the entire financial sector of Pakistan. A higher proportion of respondents also expressed their confidence in the regulator's ability to ensure the stability of the financial system (**Chart D**).

4. Comparison of results among the last three survey shows that the risk perception of the respondents in general has risen across different risk dimensions, however increase is particularly conspicuous with regard to *political uncertainty*, *imbalances, inflation and energy crisis*. **(Chart E)**

Chart A: Perception on sources of systemic risk- present

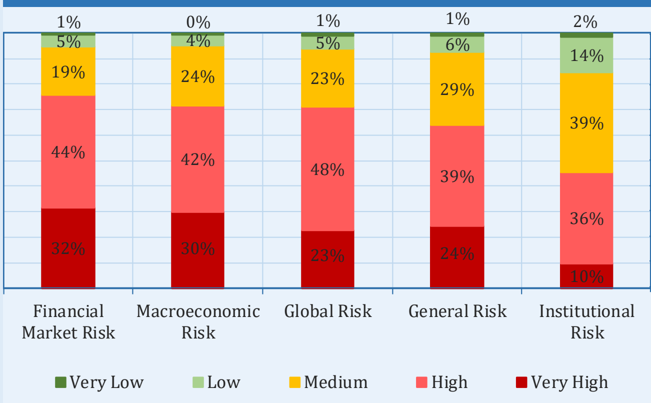


Chart B: Perception on sources of systemic risk- 6 months

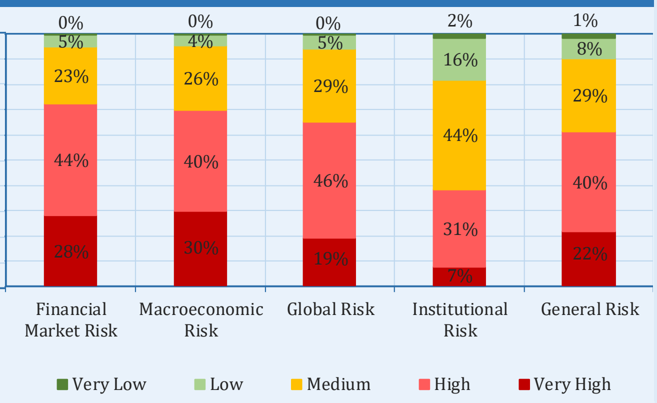


Chart C: Top 10 Risks Identified

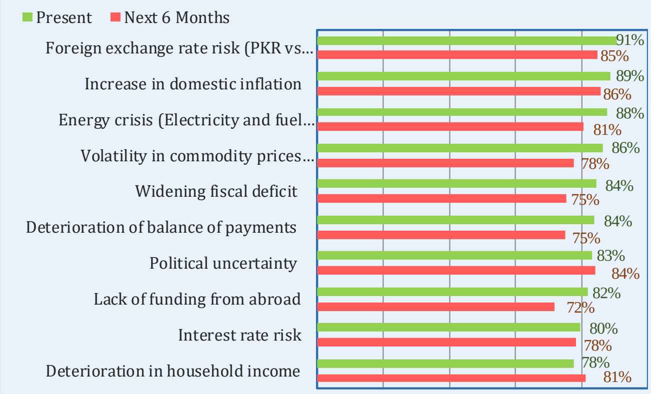


Chart D: Confidence in Financial Stability

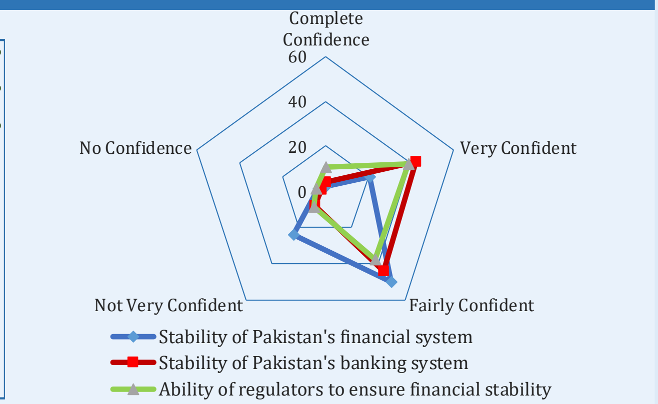


Chart E: Comparison of SBP's Systemic Risk Survey (SRS) Results (9th, 10th and 11th waves)

		9th Wave (Jan-22) Present (Average)	10th Wave (Jul-22) Present (Average)	11th Wave (Jan-23) Present (Average)
Global Risks	Slowdown in global growth	2.52	2.25	2.17
	Sovereign default risk	2.99	2.51	2.38
	Lack of funding from abroad	2.49	1.93	1.93
	Volatility in commodity prices	1.89	1.77	1.82
Macroeconomic Risks	Slowdown in domestic growth	2.22	2.10	2.00
	Increase in domestic inflation	1.99	1.83	1.67
	Widening fiscal deficit	2.09	1.92	1.79
	Deterioration of BoP	2.11	1.88	1.74
	Sovereign rating downgrade	2.47	2.20	1.98
	Slowdown in corporate sector growth	2.63	2.43	2.22
	Slowdown in infrastructure development	2.75	2.67	2.52
	Deterioration in household savings	2.10	1.99	1.91
	Volatility in real estate prices	2.91	2.69	2.69
	Energy crisis	2.34	1.78	1.73
	Political uncertainty	2.49	1.91	1.75
Financial Market Risks	Foreign exchange rate risk	1.91	1.77	1.54
	Equity price risk	2.64	2.42	2.33
	Interest rate risk	2.18	2.04	1.93
	Liquidity risk	2.62	2.33	2.15

		9th Wave (Jan-22) Present (Average)	10th Wave (Jul-22) Present (Average)	11th Wave (Jan-23) Present (Average)
Institutional Risks	Regulatory risk	2.55	2.70	2.67
	Legal risk	2.89	3.02	2.91
	Asset quality deterioration	2.53	2.45	2.29
	Shortfall in capital requirement	2.65	2.55	2.39
	Access to funding (deposit mobilization & borrowings)	2.82	2.71	2.63
	Excessive private sector credit	2.83	2.67	2.62
	Concentration risk in PSC	2.80	2.68	2.63
	Concentration risk in mutual fund	3.11	3.15	3.06
	Operational risk	2.70	2.87	2.76
	Cyber security risk	2.13	2.39	2.34
	Disruption in financial market	2.79	2.75	2.61
General Risks	Terrorism	2.66	2.67	2.41
	Geopolitical risk for Pakistan	2.39	2.28	2.21
	Natural disasters/ Increasing threat of climate change	2.73	2.57	2.34
	Social unrest	2.79	2.43	2.29

1 Very High — 3 Medium — 5 Very Low

Chapter 1: Global and Domestic Developments

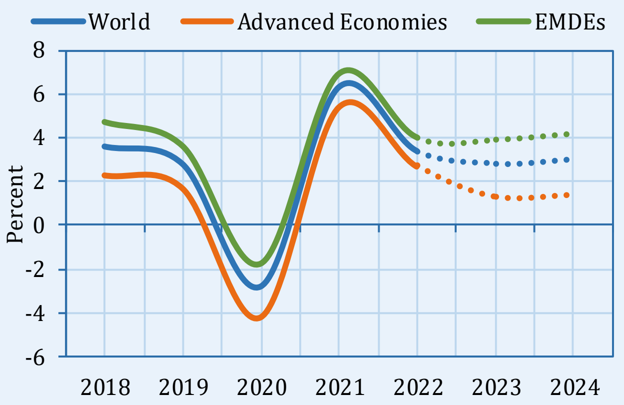
The global economy posted a notable decline in CY22 after registering a robust growth in CY21. The deceleration was observed due to elevated inflation levels, post-Covid steep rise in international commodity prices, emergence of geopolitical tensions and resurgence of Corona virus wave in China. The inflationary pressures prompted central banks to respond by monetary tightening. An appreciation of USD coupled with stressed macro financial conditions in emerging and developing economies resulted in a marked depreciation in their currencies, an increase in already elevated levels of debt and capital outflows. Domestically, Pakistan's post-pandemic economic rebound reversed during CY22, amid unfavorable global and domestic dynamics. Stabilization measures taken to address macroeconomic imbalances coupled with flash floods during Q3CY22 resulted in diminished economic activity, particularly during H2CY22. Elevated global commodity prices, delays in completion of IMF review along with external debt repayments led to a continuous decline in forex reserves and a depreciation of domestic currency. On the fiscal front, a surge in expenditures due to debt repayments and subsidies undermined the planned consolidation. Amid dearth of external financial flows, government's exposure on banks' balance sheet increased significantly. In short term, macroeconomic outcomes remain reliant upon global developments, completion of IMF program reviews and improvement in country's forex reserves.

Global Developments

Global economy lost growth momentum in CY22 against the headwinds of macroeconomic and geostrategic challenges …

The global real output grew by 3.4 percent in CY22, substantially down from 6.3 percent recorded in CY21 **(Chart 1.1)**.[10]

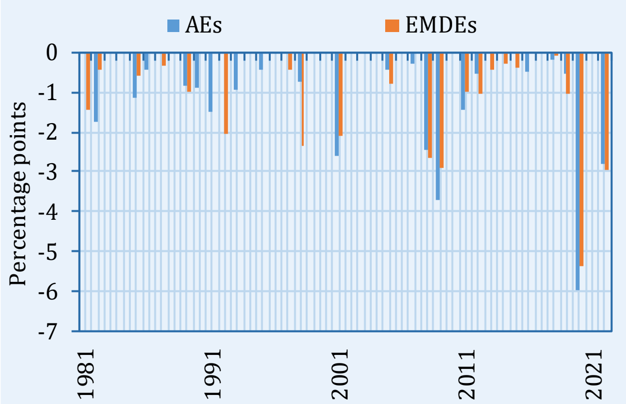
Chart 1.1 Global growth has lost momentum



Source: World Economic Outlook, IMF, April 2023

When reviewed in the context of last four decades, the slowdown seems quite significant as it is smaller than only the downfall caused by the catastrophic episodes of global financial crisis in CY09 and Covid-19 in CY20 **(Chart 1.2)**. Three key factors ignited the chain of events that led to this massive deceleration in global growth.

Chart 1.2: Output growth deceleration



Source: World Economic Outlook Database, IMF, April 2023

[10] International Monetary Fund. (2023). World Economic Outlook: A Rocky Recovery. *Washington, April*. For details, please visit https://www.imf.org/en/Publications/WEO/Issues/2023/04/11/world-economic-outlook-april-2023

...Russia-Ukraine war was a key factor in the deceleration, ...

Firstly, the Russia-Ukraine war deteriorated global economic landscape by causing a surge in global commodity prices, rise in uncertainty and a further increase in the ongoing process of economic fragmentation that started after Brexit and US-China trade tensions.

... a synchronous contractionary monetary policy further triggered the macro-financial conditions, ...

Secondly, a synchronized contractionary monetary policy stance was adopted around the globe to tame the broad and persistent inflationary pressures that emerged after Covid-19. The inflation was attributed to both demand as well as supply factors. On demand side, historic economic stimuli administered to counter Covid related recession and pent-up demand were the main factors. On supply side, Covid related supply chain disruptions, lack of investments in energy sector and shipping industry during Covid and Russia-Ukraine war led to rise in global core and non-core measures of inflation.

...and resurgent waves of Covid in China further compounded the global macroeconomic challenges.

Thirdly, China, the second largest economy of the world, grew by only 3.0 percent in CY22 – far lower than the pre-Covid average growth rate of 7.7 percent.[11] Resurgent waves of Covid and ensuing lockdowns were the key factors behind deceleration in Chinese economy. Besides, unprecedented droughts and stress in the property sector also weighed on the economic activity in China.[12]

Both AEs and EMDEs observed the third largest growth declaration in decades...

The advanced economies (AEs) and emerging markets and developing economies (EMDEs) faced the third largest growth deceleration observed over last four decades **(Chart 1.2)**. Among AEs, the USA saw the largest growth deceleration in CY22, followed by UK, Euro Area and Japan. The growth moderation in these economies was observed as i) high inflation significantly impacted consumer confidence and purchasing power that further led to moderation in demand, and ii) gas supply disruptions in Europe fueled the energy prices and inflation that ultimately impacted the industrial production.

In line with global slowdown, EMDEs managed to grow only by 4.0 percent during CY22 as compared to a robust growth of 6.9 percent in the previous year. Among leading EMDEs, Russia experienced steep economic slowdown followed by Türkiye and China **(Table 1.1)**.

Table 1.1: Global Economy: Real GDP Growth

Percent	2021	2022	2023*	2024*
World	6.3	3	3	3
Advanced Economies	5.4	3	1	1
EMDEs	6.9	4	4	4
EMDEs - Asia	7.5	4.4	5.3	5.1
USA	5.9	2.1	1.6	1.1
Euro Area	5.4	3.5	0.8	1.4
U.K	7.6	4.0	(0.3)	1.0
Japan	2.1	1.1	1.3	1.0
China	8.4	3.0	5.2	4.5
Türkiye	11.4	5.6	2.7	3.6
India	9.1	6.8	5.9	6.3
Russia	5.6	(2.1)	0.7	1.3
Saudi Arabia	3.9	8.7	3.1	3.1
United Arab Emirates	3.9	7.4	3.5	3.9
Pakistan	5.7	6.0	0.5	3.5

Source: IMF, World Economic Outlook, April 2023
*Projections

... however, growth momentum continued in GCC economies.

Growth momentum continued in Gulf Cooperation Council (GCC) as the output expanded by 7.7

[11] Average of GDP growth rate during CY10 to CY19.
[12] World Bank. (2023). Global Economic Prospects. *Washington, January*. For details, please visit https://openknowledge.worldbank.org/server/api/core/bitstreams/254aba87-dfeb-5b5c-b00a-727d04ade275/content

percent in 2022 compared to 3.5 percent a year earlier **(Table 1.2)**.

Table 1.2: Macroeconomic performance of Gulf Cooperation Council (GCC)

	2020	2021	2022	2023*	2024*
Real GDP (annual growth rate)	(4.7)	3.5	7.7	2.9	3.3
Current Account Balance (percent of GDI	(1.1)	8.6	15.2	8.6	6.5
Fiscal Balance (percent of GDP)	(8.0)	0.0	6.0	2.4	1.6
Oil Price (US$ per barrel)**	41.3	69.1	97.1	-	-
Inflation (annual average, percent)	1.3	2.2	3.3	2.9	2.3

Source: Regional Economic Outlook, Middle East and Central Asia, IMF, May 2023 and World Bank

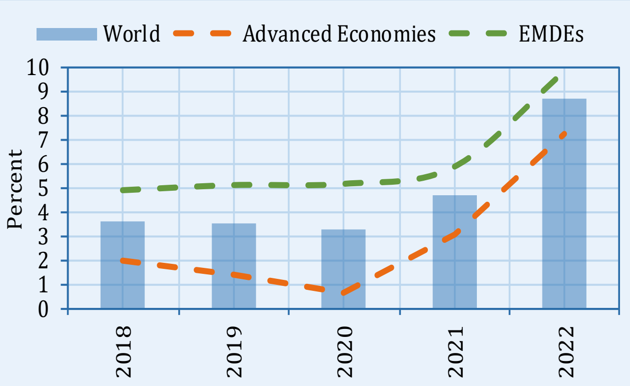
* IMF-Projections

** Average of UK Brent, Dubai Fateh and West Texas Intermediate crude oil prices.

In the first half of CY22, a continued increase in oil prices and an expansion in production provided significant support to these economies. The region benefitted from Russia-Ukraine war, as European countries reduced their oil purchases from Russia.[13] Moreover, non-oil growth activities such as rebound in tourism activities in Dubai and spillover impact of FIFA world cup in Qatar also contributed to growth in these countries.

Inflation emerged as a key challenge to global economy, surpassing multi decade high levels…

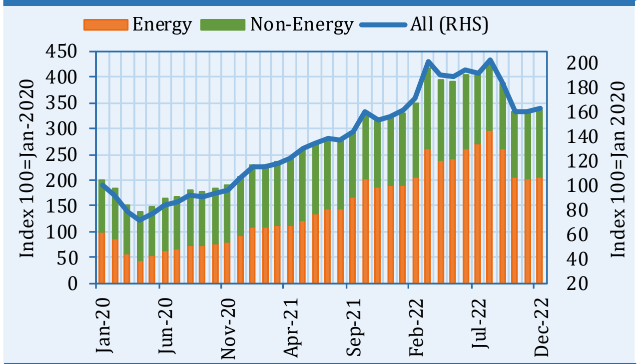
Chart 1.3: Global inflationary pressures further intensified in CY22



Source World Economic Outlook database, IMF, April 2023

Inflation increased throughout CY22 in almost all economies. Global inflation ticked in at 8.7 percent in CY22 compared to 4.7 percent last year **(Chart 1.3).** Rising inflationary pressures were also attributable to combination of demand and supply factors. On demand side, policy support through accommodative fiscal and monetary policies was the key factor.[14] On supply side, earlier supply chain disruptions were accentuated by the Russia-Ukraine war, which fueled energy and food prices **(Chart 1.4)**. Besides, elevated levels of core inflation were observed in many jurisdictions due to tight labor market conditions and substantial currency depreciation against USD, the latter owing to high interest rate on dollar denominated assets. As a consequence, the inflation in AEs reached 7.3 percent in CY22 – the highest level since 1982. In the USA, rising energy and food prices along with tight labor market led to multi-decade high inflation (8.0 percent) in CY22. In Euro Area, energy prices increased markedly due to disruptions in supply of natural gas from Russia (**Chart 1.5)**.

Chart 1.4: International commodity prices index

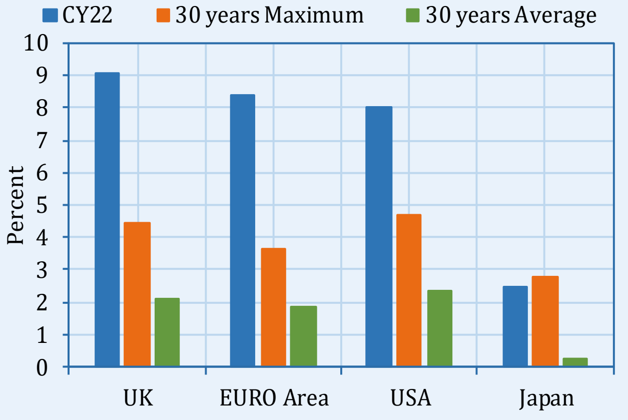


Source: IMF

[13] International Monetary Fund. (2022). Regional Economic Outlook (Middle East and Central Asia). *Washington, October*. For details, please visit https://www.imf.org/en/Publications/REO/MECA/Issues/2022/10/13/regional-economic-outlook-mcd-october-2022

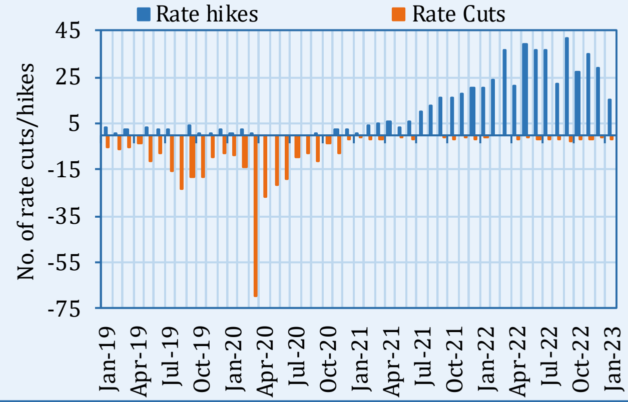
[14] World Bank. (2023). Global Economic Prospects. *Washington, January*. For details, please visit https://openknowledge.worldbank.org/server/api/core/bitstreams/254aba87-dfeb-5b5c-b00a-727d04ade275/content

Chart 1.5: Inflation in AEs hit 30 year high



Source: Bank for International Settlements

Chart 1.6: World wide central banks' policy rate decisions



Source: Cbrates

Inflation in EMDEs increased sharply, and reached 9.8 percent in CY22 – the highest level observed in the last two decades. However, inflation in China remained low compared to other EMDEs, as consumer demand remained in check due to zero Covid policy amid episodes of Covid infection in China. Low inflation in China moderated the global inflation numbers as well.

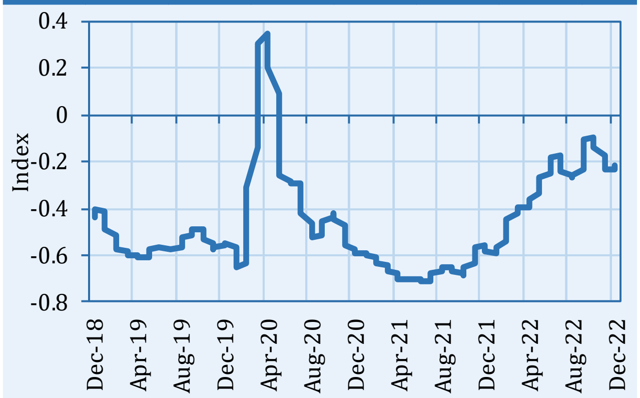
...prompting a sharp reversal of earlier accommodative monetary policy stance by the central banks...

By the start of CY22, it had become clear that the emerging inflationary pressures were not transient in nature and required stronger policy response to preserve the price and economic stability and keep inflation expectation from de-anchoring. Accordingly, central banks in EMDEs and AEs started the monetary tightening in CY21. During CY22, the policy of monetary tightening further got traction and jurisdictions moved to jack-up the policy rates. The review of monetary policy stances across the globe shows that central banks announced rate hikes by 367 times during CY22[15] **(Chart 1.6).**

...leading to tightening of global financial conditions ...

Central banks' aggressive response to elevated inflation led to rise in interest rates and tightening of financial conditions[16] **(Chart 1.7)**. However, the conditions somewhat improved towards the end of 2022 reflecting market expectations of ease in federal funds rate.[17]

Chart 1.7: Financial Condition Index



Source:fred.stlouisfed.org

[15] Analysis is based on central banks data listed on Cbrates.com

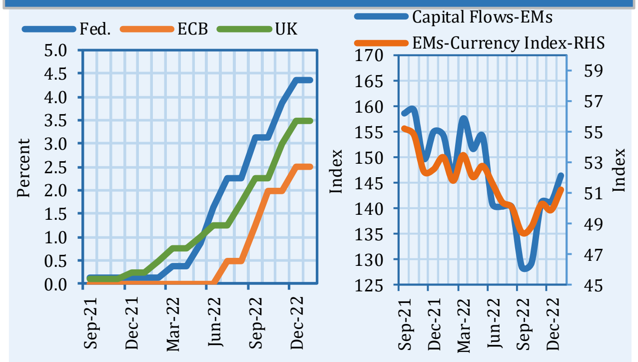
[16] The Chicago Fed's National Financial Conditions Index (NFCI) provides a comprehensive weekly update on U.S. financial conditions in money markets, debt and equity markets and the traditional and "shadow" banking systems. Positive values of the NFCI indicate financial conditions that are tighter than average, while negative values indicate financial conditions that are looser than average.

[17] International Monetary Fund. (2023). World Economic Outlook Update. *Washington, January*. For details, please visit https://www.imf.org/en/Publications/WEO/Issues/2023/01/31/world-economic-outlook-update-january-2023

... causing capital outflows and exchange rate depreciation for EMDEs...

Notable tightening in global financial conditions and substantial USD appreciation caused record capital outflows from EMDEs **(Chart 1.8).**[18] Resultantly, currencies of many emerging markets depreciated against USD despite substantial liquidation of FX reserves to support their domestic currencies.[19] Exchange rate pressures were particularly pronounced for EMDEs with limited fiscal space. EMDEs with fiscal deficit to GDP ratio exceeding three percent faced eight times more depreciation than EMDEs with lower deficit ratio. Nonetheless, capital flows from EMDEs began to improve towards the end of 2022 as USD appreciation moderated.

Chart 1.8: A rapid monetary policy tightening in AEs created the vulnerabilities for EMDEs

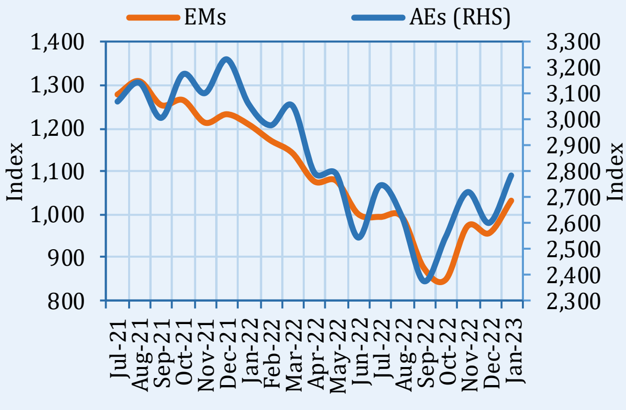


Source:cbrates.com Source: Bloomberg

...together with synchronized decline in equity prices in AEs and EDMEs...

EMDEs and AEs equity price indices declined by 22.4 percent and 19.5 percent, respectively over the course of CY22. Higher inflation, aggressive interest rate hikes and uncertain economic conditions weighed on investor sentiments throughout the year **(Chart 1.9)**. Particularly, stock prices fell sharply in August 2022 as Federal Reserve indicated the rate would remain high.[20]

Chart 1.9: Equity Prices Index



Source; Bloomberg

However, in the last quarter of CY22, the situation improved in the wake of ease in inflationary pressure and, expected decreases in interest rates: equity pricing started to recover in the last quarter of CY22.[21]

Public debt slightly improved for AEs but remains elevated for EMDEs...

Covid 19 and associated aggressive global fiscal response led to a substantial rise in public debt in both AEs and EMDEs. As COVID related measures came to an end and GDP posted strong nominal growth during 2021-22, the global public debt ratio declined to 92.1 percent in CY22, compared with 99.7 percent in CY20 and 84.3 percent in CY19.[22]

[18] World Bank. (2023). Global Economic Prospects. *Washington, January*. For details, please visit https://openknowledge.worldbank.org/server/api/core/bitstreams/254aba87-dfeb-5b5c-b00a-727d04ade275/content

[19] Around one-fifth of EMDEs liquidated more than 15 percent of their gross official reserves. Source: World Bank. (2023). Global Economic Prospects. *January*. For details, please visit https://openknowledge.worldbank.org/server/api/core/bitstreams/254aba87-dfeb-5b5c-b00a-727d04ade275/content

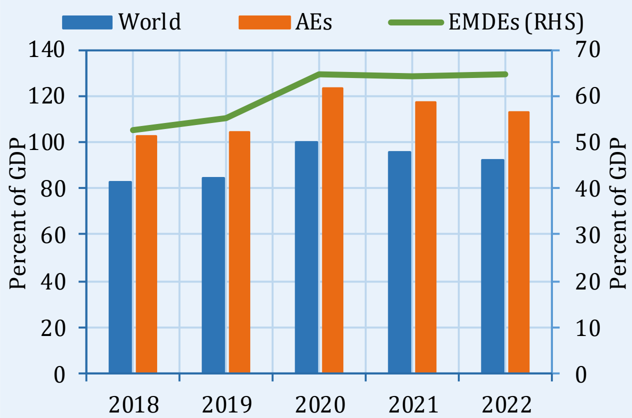
[20] Speech by Chair Powell on monetary policy and price stability (August 26, 2022) - Federal Reserve Board. For details please visit https://www.federalreserve.gov/newsevents/speech/powell20220826a.htm

[21] International Monetary Fund. (2023). World Economic Outlook Update. *Washington, January*. For details, please visit https://www.imf.org/en/Publications/WEO/Issues/2023/01/31/world-economic-outlook-update-january-2023

[22] International Monetary Fund. (2023). Fiscal Monitor Report. *Washington, April*. For details please visit https://www.imf.org/en/Publications/FM/Issues/2023/04/03/fiscal-monitor-april-2023

Public-debt dynamics significantly varied across the different income groups, though. In AEs, public debt ratio continued to decline in 2022 but remained above pre-pandemic levels. The continued decline in debt ratio was mainly due to decline in debt in 2022 along with rebound in growth in CY21 and a swift rise in inflation in CY22.[23] However, debt to GDP ratio in EMDEs marginally inched up **(Chart 1.10)** from 64.3 percent in CY21 to 64.6 percent in CY22.

Chart 1.10: General Government Debt



Source: Fiscal Monitor, IMF, April 2023

...leading to substantial debt servicing burdens for vulnerable EMDEs

This rise in EMDEs' debt was also due to depreciation against USD coupled with idiosyncratic issues faced by these economies. Governments of many EMDEs are facing a challenging global macro financial environment which is characterized by high commodity prices, tight financial conditions and concomitant pressure on many EMDEs' currencies. The current global macro financial environment is quite challenging in terms of debt servicing for vulnerable sovereigns.[24] Interest payments of EMDEs significantly increased by USD 273.8 billion to USD 4,287.2 billion in CY22 compared with USD 175.2 billion increase in last year.

Alongside debt servicing pressure on sovereigns, the recent stress in US banking sector[25] and resolution of Credit Suisse manifest the financial stability risks inherent in the challenging global macro financial environment.

Domestic Developments

CY22 began with elevated level of economic activity in the wake of post pandemic recovery ...

Pakistan's economic recovery from COVID-19 pandemic was remarkable as the better management of the pandemic and stimulus measures supported the economic activities. The economy grew at a rate of 5.8 percent in FY21 and the momentum continued in FY22, with the growth of 6.1 percent for the year. Key drivers of this growth were commodity-producing sectors, while services also provided impetus on the back of strong support from large-scale manufacturing (LSM) and enhanced agricultural output. **(Table 1.3, Chart 1.11)**

Table 1.3: Key Economic Indicators of Pakistan*

	2018	2019	2020	2021	2022
Real Sector			**(Percent)**		
Real GDP Growth (FY)	6.1	3.1	(0.9)	5.8	6.1
Industrial Sector Growth (FY)	9.2	0.2	(5.8)	8.2	6.8
Agricultural Sector Growth (FY)	3.9	0.9	3.9	3.5	4.3
Service Sector Growth (FY)	6.0	5.0	(1.2)	5.9	6.6
LSM Growth (Average YoY)	3.8	1.9	(9.0)	17.5	6.0
Inflation (Average YoY)	5.3	9.4	9.5	9.5	19.7
External Sector			**(USD Billion)**		
SBP Reserves (End-of-Period)	7.2	11.3	13.4	17.7	6.5
Current Account Balance	-18.8	-7.1	-0.7	-12.3	-12.1
Exports (Goods & Services)	30.8	30.7	27.3	35.6	38.8
Imports (Goods & Services)	68.4	58.0	52.1	76.4	76.3
Remittances	21.0	22.1	25.9	31.1	29.6
PKR/USD Rate (Year Average)	122	150	162	163	207
Fiscal Sector			**(Percent)**		
Fiscal Deficit (as % of GDP, FY)	(6.5)	(9.1)	(8.1)	(7.1)	(7.9)
Revenue Growth (YoY)	(3.0)	12.3	10.1	17.5	16.9
Expenditure Growth (YoY)	6.0	18.9	9.4	11.3	31.1
Monetary Sector			**(Percent & PKR Trillion)**		
Credit to Private Sector (YoY Growth)	19.1	5.2	4.7	19.6	13.4
Financing	2.5	3.4	3.5	3.6	5.6
Domestic	1.9	2.7	2.7	1.7	5.7
External	0.6	0.7	0.8	1.9	(0.1)

*All data are on Calendar Year unless stated otherwise.

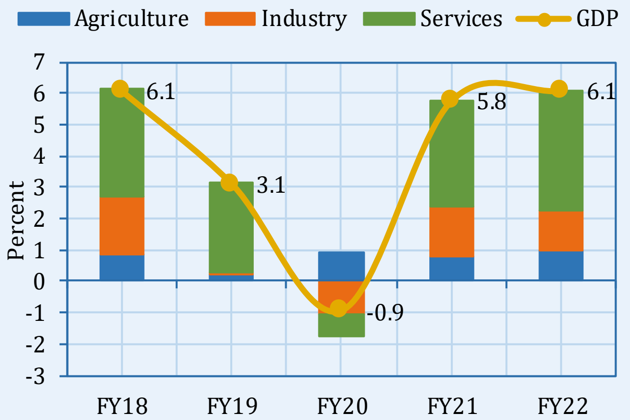
Source: Ministry of Finance, Pakistan Bureau of Statistics and State Bank of Pakistan

[23] As Inflation and economic activity moved up together in CY21 this led to swing in nominal GDP and contributed to decline in debt ratios.

[24] International Monetary Fund. (2022). IMF Annual Report: Crisis Upon Crisis. *Washington*. For details, please visit https://www.imf.org/external/pubs/ft/ar/2022/

[25] In USA, a number of small and medium-sized regional banks failed in Q12013 due to, inter alia, revaluation losses on long-term assets on account of sharp rise in interest rates, increase in funding costs, maturity mismatches, etc.

Chart 1.11: GDP Growth & Sectoral Contributions



Source: PBS

...however, a combination of external and internal factors led to deterioration of macro environment and a decline in growth...

Persistent shocks to international commodity prices, unplanned fiscal stimulus, delays in the resumption of the IMF program and domestic political instability undermined the sustainability of economic growth during CY22. These developments led to a surge in pressures on external account and widening of fiscal deficit along with concomitant currency depreciation and higher than expected inflation. Policy response to growing imbalances and rising economic uncertainty led to a deceleration of economic growth in the second half of CY22.

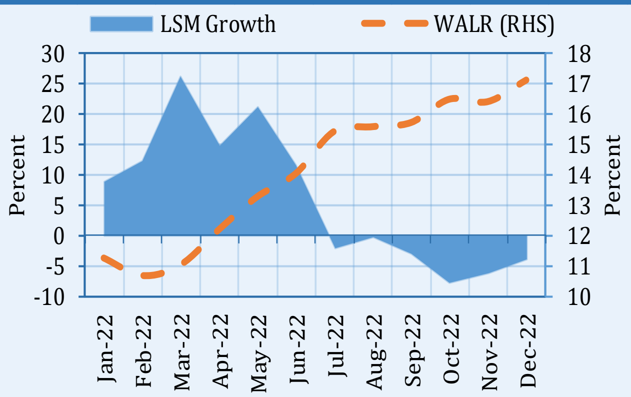
In the wake of post-Covid recovery, the LSM registered 15.8 percent average growth during H1CY22; however, it contracted by 3.8 percent in H2CY22 as macro-economic conditions deteriorated and stabilization measures started to take hold (**Table 1.4**, **Chart 1.12)**. Moreover, Business Confidence Index fell in H2CY22 to its lowest level since April 2020 when COVID pandemic set in.

Table 1.4: Stabilization measures taken by the Government and SBP

Sr. No.	Measures
I	Increase in policy rate by 900 bps from Sep-2021 to Dec-2022
II	Increase in CRR from 5 to 6 percent in Nov-2021.
III	Discontinuation/expiry of Covid related refinance schemes and prudential measures CY21-CY22
IV	Increase in list of import items subject 100 percent cash margin requirement in Apr-2022 (later relaxed in Aug-2022 and then withdrawn in Mar-2023)
V	Tightening of prudential regulations for consumer finance in Sep-2021
VI	Increase in rates of LTFF and EFS (Apr-2022), which were later linked to policy rate.
VII	Increase in duties on import of luxury items in Jul-2022.
VIII	Mandatory prior approval of SBP for import of non-essential items in May-2022 (later on withdrawn in Dec-2022)
IX	Ministry of Commerce's interim ban on import of certain items in May-2022

Source: Government of Pakistan and SBP

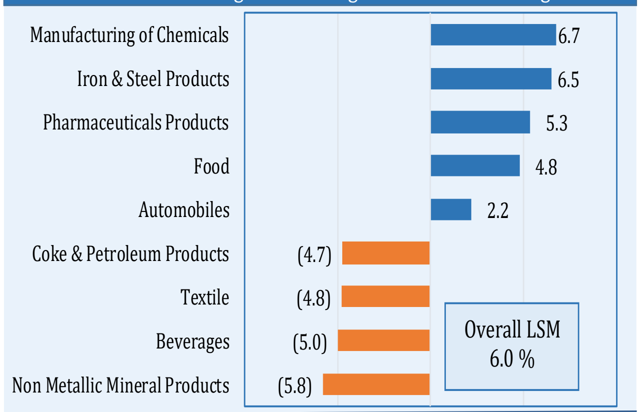
Chart 1.12: Large scale manufacturing and lending rate



WALR=Weighted Average Lending Rate, Source: PBS and SBP

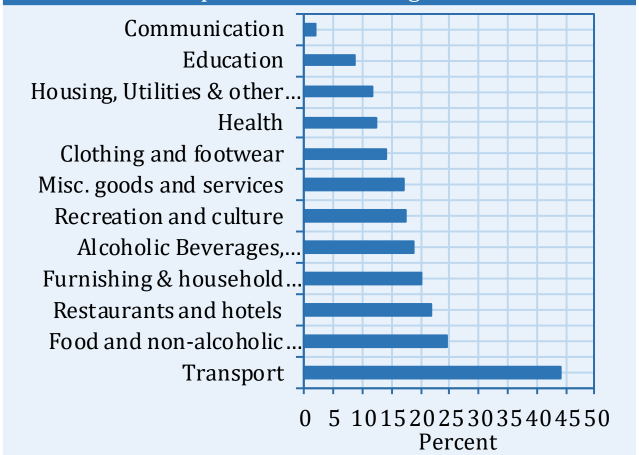
Cumulatively, LSM grew by 6 percent in CY22 as compared to 17.5 percent growth in CY21. The growth was mixed as 10 out of the 22 sectors contracted. Wearing apparel (69 percent) and furniture sector (142 percent) led the growth, whereas textile (-3.3 percent) and coke/ petroleum sector (-5.5 percent) posted negative growth (**Chart 1.13**).

Chart 1.13 : Sector Wise growth - Large Scale Manufacturing



Source: PBS

Chart 1.14: Component Wise average Inflation

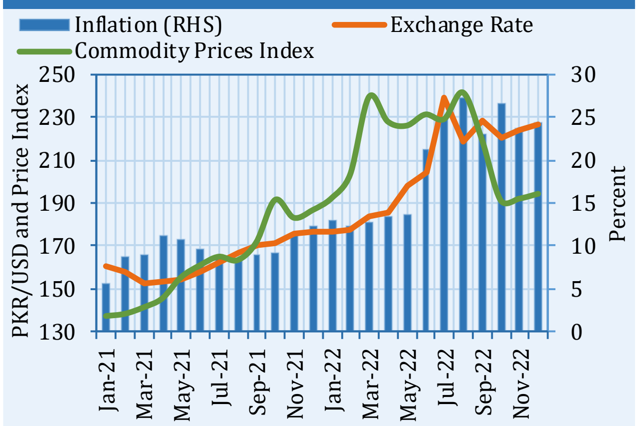


Source: PBS

...macro conditions were further aggravated by flash floods...

Climate change and the associated increase in the frequency and quantum of rains led to massive floods in the country during Q3CY22. Besides severe damage to infrastructure, large swathes of crop lands were inundated. As a result, economic imbalances were compounded in several ways. Firstly, disruptions in agricultural supply chains resulted in higher food inflation. Secondly, damage to domestic agricultural produce affected the exports and necessitated the imports of certain agricultural products that put further pressure on already strained external account.

Chart 1.15: Inflation, Exchange rate and Commodity prices



Source: PBS, SBP and IMF

...leading to high and broad-based inflation

Rising more than two folds, average CPI inflation reached 19.7 percent in CY22 from 9.5 percent in CY21. Most of the components of CPI basket recorded double-digit inflation. Among these components, major contribution came from transport, housing/utilities and food groups (**Chart 1.14**). Alongside elevated aggregate demand in the wake of post-COVID recovery, supply side shocks i.e. floods, elevated global commodity prices and domestic currency depreciation led to phenomenal rise in inflation.

Reversal of subsidies on fuel and energy prices by the government also pushed up energy prices and overall inflation rate during H2CY22. **(Chart 1.15)**

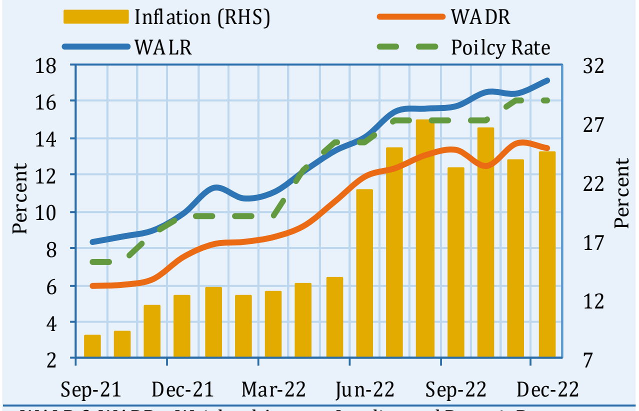
... rising macroeconomic imbalances necessitated appropriate policy response ...

After maintaining the policy rate at 7 percent till Q3CY21, SBP reversed the accommodative policy stance in the wake of rising inflation in September 2021. By the time CY22 began, it had become clear that inflationary pressures were persistent and higher.

To curb the inflationary pressures, SBP pursued aggressive tightening and increased the policy rate by 900 bps to 16 percent by December 2022

(Chart 1.16).[26] In addition to monetary policy response, a host of prudential and administrative measures were taken to moderate macroeconomic imbalances (**Table 1.4**).

Chart 1.16: Interest Rates and Inflation

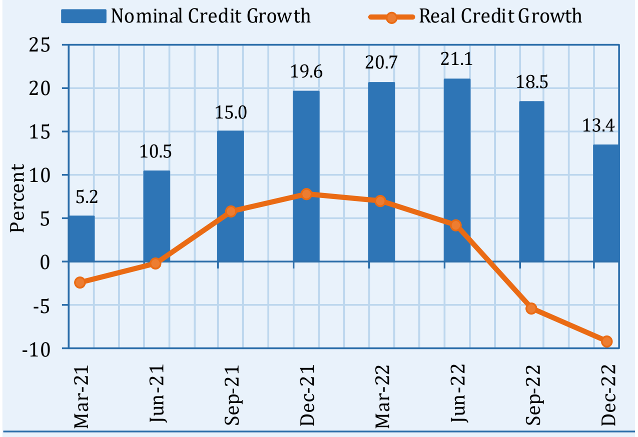


WALR & WADR = Weighted Average Lending and Deposit Rates; Source: SBP & PBS

...leading to deceleration in private sector credit growth.

Private sector credit (PSC) data shows that the lagged impact of Covid stimulus plateaued in first half of CY22. H2CY22 was characterized by a deceleration in nominal growth rate of PSC, which in fact reflects contraction in real terms if adjusted for inflation **(Chart 1.17).** This slowdown came on the back of rise in interest rates and slowdown in economic activity, while government demand for bank credit also remained high due to its fiscal needs. On a cumulative basis, credit to private sector growth moderated to 13.4 percent in CY22 as compared to a healthy growth of 19.6 percent in CY21.

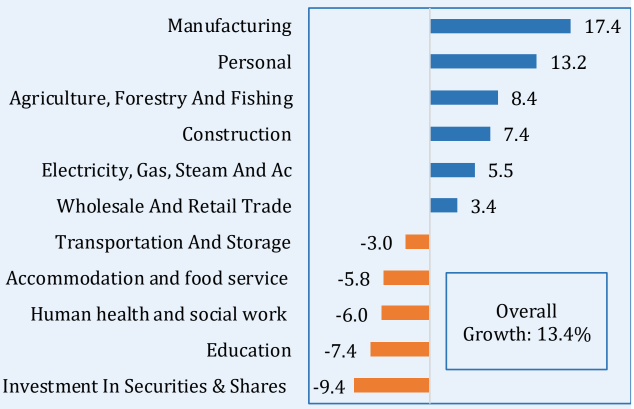
Chart 1.17: Nominal and Real Credit Growth



Source: SBP

Growth in PSC was led by manufacturing, consumer finance and retail/ wholesale trade, among other sectors of the economy **(Chart 1.18)**. As can be expected in an inflationary environment, the major portion of this financing was obtained for working capital and short-term financing needs.

Chart 1.18: Sector Wise Credit Growth



Source: SBP

High import demand and elevated commodity prices exerted pressure on current account...

Amid vibrant domestic demand and substantial increase in global commodity prices during H1CY22, the import of goods and services increased significantly to USD 42.7 billion; 23 percent higher relative to the corresponding period last year.

[26] Inflation continued rising trajectory after review period and reached 35.4 percent in March 2023. Consequently, monetary policy rate was further increased to 21 percent in April, 2023.

This substantial increase in imports came from petroleum group, which increased by 86.2 percent from USD 5.4 billion in H1CY21 to USD 10.1 billion in H1CY22.[27] Besides petroleum group, other major contributions came from machinery, agriculture / other chemicals, textile group and edible oil imports, which grew, by 9.1 percent, 12.6 percent, 7.9 percent and 14.7 percent, respectively.

...accordingly, measures were taken to ease the pressure on current account...

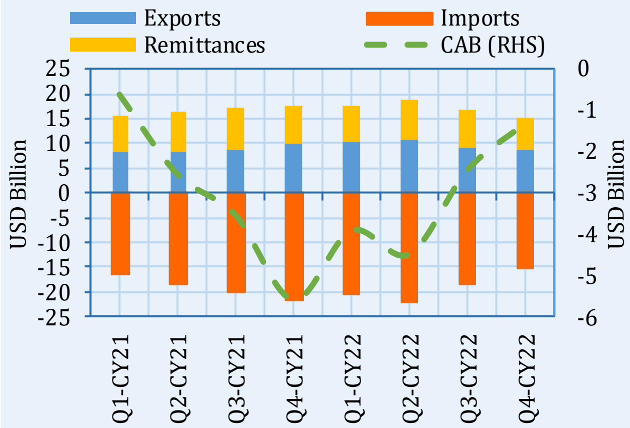
Price and non-price measure were taken to control the widening current account deficit. Under price measures, market-based exchange rate mechanism discouraged imports and encouraged exports. Non-price measures included restrictions on import of certain items, increase in import duties, imposition of 100 percent cash margin on import of luxury items, mandatory prior approval of letters of credit (LCs) for import of non-essential items. As a result of these measures, imports were significantly curtailed in the second half of CY22, contracting by 19.5 percent relative to H2CY21.

...stabilization measures coupled with steady exports helped contain the current account deficit

Exports of goods and services on the other hand remained resilient and grew by 9.2 percent from USD 35.6 billion in CY21 to USD 38.8 billion in CY22. This growth in exports was an outcome of favorable global demand dynamics particularly during H1CY22 and conducive policies of the government and SBP.[28] However, remittances contracted by 4.8 percent from USD 31 billion in CY21 to USD 29.6 billion in CY22. This decrease in remittances was observed due to slowdown in advanced economies, gap between open market and interbank exchange rate and normalization of air travel post pandemic.

As a result of stabilization measures taken by the government to ensure external account sustainability, current account deficit on a cumulative basis contracted by 1.1 percent from USD 12.3 billion in CY21 to USD 12.1 billion in CY22 **(Chart 1.19).**

Chart 1.19: Current Account Balance



Source: SBP

Slowdown in official inflows along with debt repayments led to a fall in FX reserves and depreciation in exchange rate...

FX reserves of SBP declined over CY22, falling from USD 17.8 billion in Dec-21 to USD 5.6 billion at end Dec-22 **(Chart 1.20)**. This fall in reserves was recorded largely due to debt repayments, current account deficit and government payments pertaining to settlement of an international arbitration award related to a mining project. Moreover, delays in completion of the reviews of IMF program resulted in drying up of multilateral and bilateral official inflows. Also, an increase in policy rates in AEs further dampened the prospect of external commercial borrowings.

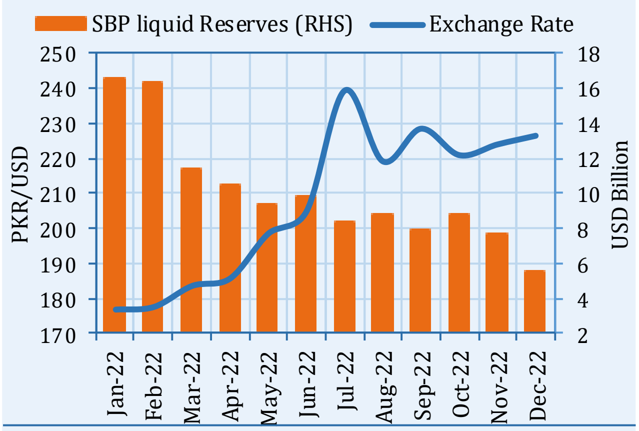
The rupee-dollar parity depreciated by 22 percent over the year from PKR 177/$ at end Dec-21 to PKR 226/$ at the end of Dec-22 **(Chart 1.20)**. This depreciation in the value of rupee was driven by the economic uncertainty, a continuous decline in SBP reserves and strengthening of dollar in

[27] Average spot price of Dubai oil increased from 63 $/b in H1CY21 to 103 $/b in H1CY22.

[28] Energy subsidy by the government for export industries, Market determined exchange rate and concessionary export finance scheme up to April 2022.

international markets following monetary tightening by Federal Reserve.

Chart 1.20: SBP Reserves and Exchange Rate



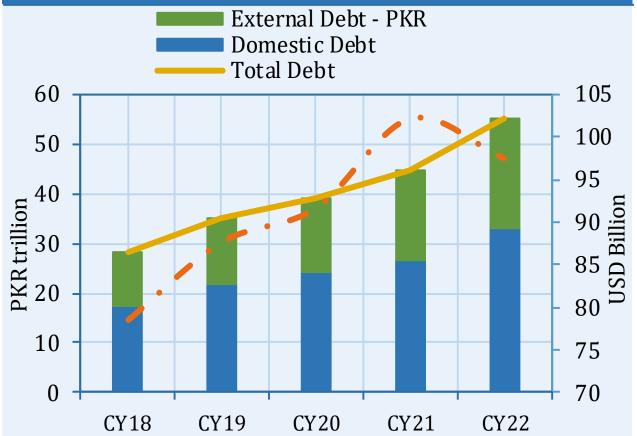
Source: SBP

Keeping in view the deterioration in external liquidity amid declining FX reserves, the challenges in reining in the twin deficits and associated risks, the sovereign rating of the country was downgraded from B- to CCC+ by S & P in October 2022.[29]

...resultantly, external debt position deteriorated in rupee terms

Public external debt[30] reduced from USD 102.2 billion in CY21 to USD 97.5 billion by the end of CY22. This decline in external debt can be attributed to dearth of fresh external financing, debt repayments and decline in dollar equivalent value of debt denominated in other foreign currencies, which depreciated vis-à-vis dollar following increase in interest rates by Federal Reserve. However, in nominal PKR terms, the external debt surged by 22.5 percent due to depreciation of domestic currency **(Chart 1.21).**

Chart 1.21: Pakistan debt profile

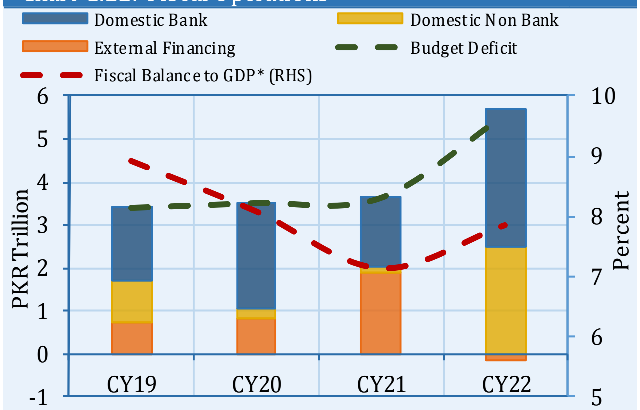


Source: SBP

Fiscal slippages led to higher than expected fiscal deficit...

Contrary to the consolidation planned by the government, fiscal deficit rose from PKR 3.4 trillion (7.1 percent of GDP) in FY21 to PKR 5.3 trillion (7.9 percent of GDP) in FY22 **(Chart 1.22)**.

Chart 1.22: Fiscal Operations



Source: MoF
* Fiscal Balance to GDP represented on FY basis

Government revenues increased by 17 percent during CY22 (from PKR 7.5 trillion in CY21 to PKR 8.7 trillion in CY22). This increase in revenues was more than offset by the expenditures, which increased by 31 percent from PKR 11.1 trillion in CY21 to PKR 14.6 trillion in CY22. This annual increase in expenditures was an outcome of subsidies and higher markup payments amid rising interest rate environment coupled with

[29] In February 2023, Moody's and Fitch downgraded the rating for Pakistan to Caa3 and CCC-.

[30] Includes Government debt from IMF and Foreign exchange liabilities.

floating-rate nature of a significant portion of domestic debt. Impact of increase in subsidies was most pronounced in the first half of CY22, following the government's decision to freeze fuel and power prices at the end of February 2022.[31] On calendar year basis, budget deficit grew by 53.2 percent from PKR 3.6 trillion in CY21 to PKR 5.6 trillion in CY22.

...and the budget deficit was financed exclusively through domestic sources

The substantial gap in fiscal balance was financed through domestic sources amid lack of external financing. Of the PKR 5.7 trillion domestic financing,[32] 56.4 percent came from the banks whereas 43.6 percent of the financing was sourced from non-banking sector **(Chart 1.22)**. Financing from banking sources grew by 103 percent, pushing up the share of public sector credit in banking sector's asset base to 55.5 percent.[33]

As a result, the domestic debt increased by 24 percent i.e., from PKR 26.8 trillion at end CY21 to PKR 33.2 trillion at the end of CY22 **(Chart 1.21)**.

In terms of sources, most of the expansion in domestic debt came from PIBs and Shariah compliant bonds. This increase in reliance on long-term instruments resulted from GOP's drive to enhance public debt profile by shifting towards long-term instruments. Although, lengthening of the debt profile reduced rollover risk, however the large concentration of floating rate instruments in the domestic debt significantly enhanced the repricing risk amid high interest rate environment. Incidentally, the debit servicing cost significantly increased over the period.

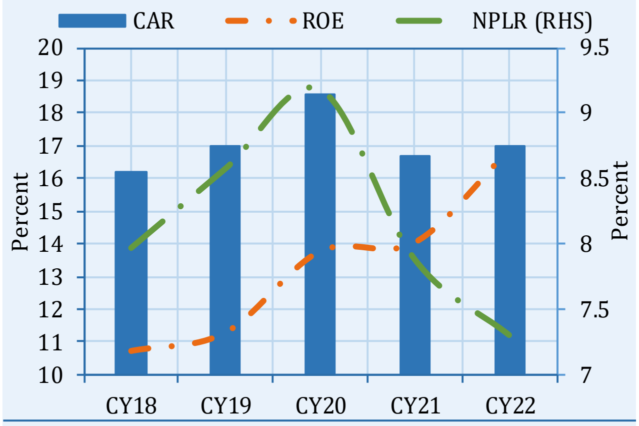
Banking sector continues to show steady performance with contained credit risk amid deteriorating macro-economic environment.

Due to scarce external financing, government borrowed PKR 3.2 trillion from banks to fulfill its financing needs in CY22. As a result, banking sector's investment portfolio grew by 26.4 percent, a major driver of growth in asset base. Advances, on the other hand, decelerated amid slowdown in the economy and increased cost of borrowing.

On liability side, this strong expansion in asset base was financed through increased reliance on borrowings, as they grew by 65.6 percent in CY22 amid slowdown in deposits mobilization.

Even in the face of stressed macroeconomic conditions, profitability of the banking sector showed some improvement as the after-tax profit grew by 27.4 percent in the year under review. Strong rebound in interest earnings driven by high interest rates supported bank's profitability as return on equity (ROE) of the sector increased from 14.1 percent in CY21 to 16.9 percent in CY22 **(Chart 1.23)**.

Chart 1.23: Key FSIs of Banking Sector



Source: SBP

Credit infection of the banking industry, as measured by the non-performing loans to gross

[31] Subsidies increased by 132 percent from PKR 609 billion in CY21 to PKR 1413 billion in CY22.

[32] Of the 5,715 billion PKR raised, 5,572 billion were used to finance deficit and 144 billion PKR were used to retire external debt.

[33] Includes both banks' investments in government securities and public sector advances.

loans ratio (GNPLR), improved from 7.9 percent at the end of CY21 to 7.3 percent at end CY22. Net infection ratio was only 0.8 percent at the end of CY22. Overall, the solvency of the banking sector remained firm as capital adequacy ratio (CAR) stood at 17 percent, which is well above the regulatory requirement of 11.5 percent (**See Chapter 03 on banking for detailed analysis**).

However, stress test results show that in the near future, persistence of economic uncertainty, high interest rate environment and slowdown in the economy for an extended duration may lead to a rise in corporate delinquencies (**see Chapter 08 on corporate sector and Chapter 04 on resilience of banks for detailed analysis**).

Going forward….

On global front, tighter financial conditions, geopolitical tensions and sluggish recovery in China are the key risk factors affecting the global growth. Although global headline inflation is receding due to ease in food and energy prices, core inflation may persist for longer than anticipated. Such unfavorable outcomes may translate into tighter financial conditions, challenging the stability of macro-financial systems.

The domestic economic and financial dynamics is, inter alia, contingent upon global economic and geo-political conditions. Additionally, Pakistan's internal political stability in the wake of upcoming general elections in CY23, the prudent management of government debt in a high interest rate environment and resumption of IMF program would be key determinants affecting economic outlook.

Chapter 2: Financial Markets' Behavior

Domestic financial markets went through notable volatility during CY22. The market's dynamics were driven by the spillover effects from Russia-Ukraine war, significant strengthening of USD against (other currencies), elevated international commodity prices, weakening external balance, and tightening financial conditions. To contain the emerging risks, SBP continued to pursue the monetary tightening, and further raised the policy rate by a cumulative 625 bps during CY22. The market rates responded to the changes in policy rate and SBP maintained overnight repo rate (ONR) close to policy rate by managing the market liquidity through open market operations (OMOs). The foreign currency market, however, operated in stressed conditions, as the pressure on external account and ensuing uncertainties led to liquidity shortages and volatility in the FX market with exchange rate witnessing depreciation. The equity market witnessed several bouts of volatility and ended CY22 with a lackluster performance. Besides macroeconomic concerns, domestic political developments and the uncertainty regarding revival of IMF program led to risk averse behavior by investors. On an overall basis, financial markets remained in tight conditions but did not pose any imminent stability concerns for financial institutions, as banks showed adequate resilience to withstand market risk shocks.

Volatility in financial markets was mainly a reflection of the Russia-Ukraine war and its related spillovers effects during CY22 …

Just as the world was struggling to recover from the Omicron wave of the COVID-19[34], associated supply chain shocks and building inflationary pressures, the geo-political tension in Eastern Europe resulted in the breakout of Russia-Ukraine war on February 24, 2022. Since Russia and Ukraine are among key players of global supply chains of many key food and energy related inputs, their conflict had implications for global trade. Accordingly, inflationary pressures, which were already high on the back of elevated energy prices and supply disruptions, further deepened. In the initial response to the war, commodity prices (as measured by IMF commodity index) sharply jumped 17.7 percent on MoM basis –the historical highest (MoM) increase in the index since January 2003. According to IMF, the global economic activity experienced a broad-based and sharper-than-expected slowdown. IMF expects the global economic growth to slow down to 2.8 percent in 2023 from 3.4 percent in 2022.[35]

A major source of the slowdown in global growth was the tightening cycle of monetary policy. To normalize the policy stance (that was relaxed to fight the pandemic) so as to counter the rising inflation and anchor inflation expectations, central banks, especially in EMDEs, began tightening their monetary policy stance. Advanced Economies (AEs) also followed suit in CY22, and tightening in some cases was sooner than the expected normalization of monetary policy in the aftermath of significant accommodation adopted during the COVID-19 pandemic. In this regard, the monetary tightening by AEs, especially US Fed, was noteworthy as it also resulted in capital outflows from emerging economies and strengthening of US dollar against many currencies.

In response to rising inflation, uncertain global economic outlook, and rising fears of global recession, major financial markets (such as equities) exhibited increased volatility during

[34] For instance, China began lockdowns in late Q1CY22 to conduct mass testing and control a growing outbreak in major cities such as Shanghai following its "zero-COVID" strategy.

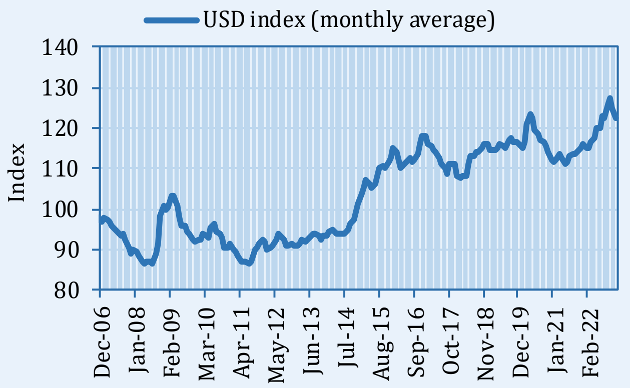
[35] International Monetary Fund. (2023). World Economic Outlook: A Rocky Recovery. *Washington, April*. For details, please visit https://www.imf.org/en/Publications/WEO/Issues/2023/04/11/world-economic-outlook-april-2023

CY22. Financial conditions continued to tighten across the globe and in some cases such as in AEs, they were tight by historical standards.[36] The dollar liquidity became more costly especially for many emerging market economies. In the backdrop of tighter global financial conditions, sustainability of external debt also emerged as an important concern for several emerging market economies.

A strengthened USD in global markets also put pressures on many currencies …

The significant strengthening of USD was a noteworthy development in global financial markets during CY22 (**Chart 2.1**). It adversely affected external accounts of EMDEs – especially net importers of commodities – and contributed to their inflationary pressures. Accordingly, the policy of monetary tightening generally remained common among EMDEs during CY22.

Chart 2.1: Trend in Nominal Broad U.S Dollar Index (Jan 2006=100)



Source: Federal Reserve Bank of St. Louis

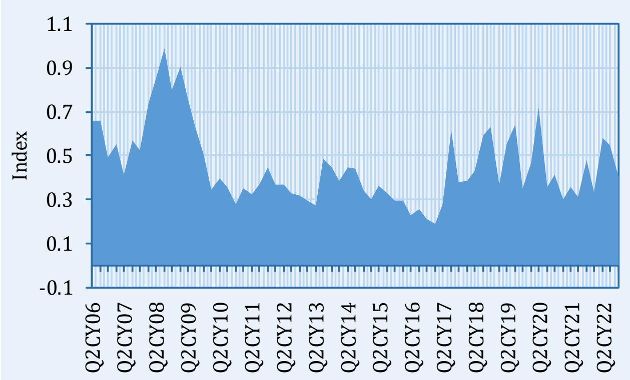
Monetary policy tightening continued …

On the domestic front, the monetary policy tightening cycle that had begun in September 2021 got further traction during CY22. SBP raised the policy rate by cumulative 625 basis points during CY22 to counter growing inflationary pressures and risks to external account. The year 2022 thus witnessed tightening in financial conditions as compared to the last year, when the macro-environment was relatively accommodative.

Domestic financial markets exhibited significant volatility and pressures during CY22 …

Domestic financial markets witnessed increased stress during CY22, which was a reflection of global as well as domestic developments (**Chart 2.2 & 2.3**). The foreign exchange (FX) market remained under pressure amid the widening current account deficit (particularly in H1CY22), external debt repayments and falling SBP's FX reserves. The money market witnessed strain on liquidity especially in H1CY22 due to increased government borrowings, financing for commodity operations and growing private sector credit. However, the open market operations (OMOs) augmented the interbank market liquidity and helped keep the overnight repo close to policy rate. For most of the year, bearish sentiments continued in the equity market and KSE-100 index fell 9.4 percent.

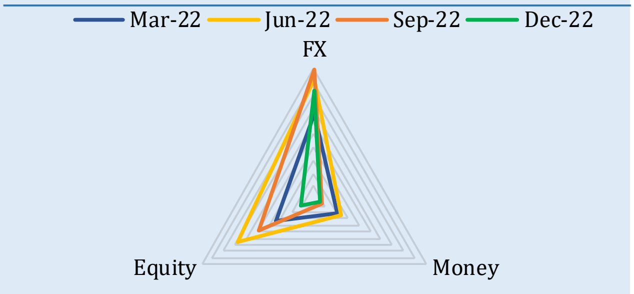
Chart 2.2: Trend in Financial Markets Stress Index



Source: SBP staff estimates

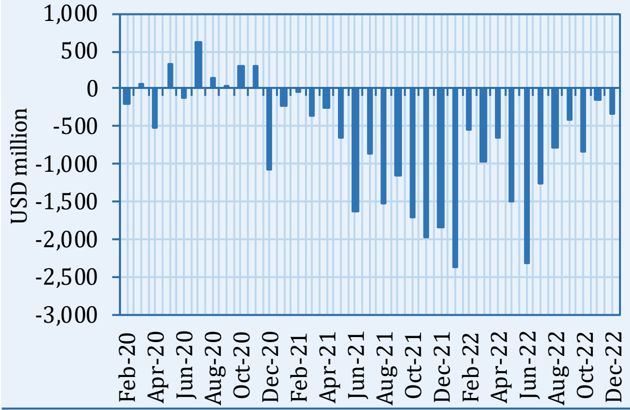
[36] International Monetary Fund. (2022). Global Financial Stability Report. *Washington, October*. For details, please visit https://www.imf.org/en/Publications/GFSR/Issues/2022/10/11/global-financial-stability-report-october-2022

Chart 2.3: Financial Markets Stability Map



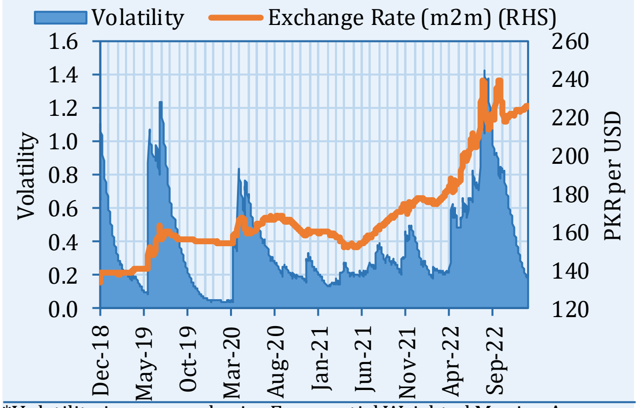
Note: Volatility in the respective markets is calculated using Exponential Weighted Moving Average (EWMA) method. Daily Overnight repo rate, KSE-100 index and Interbank PKR/USD Exchange Rate are used as indicators for the money, equity and foreign exchange markets, respectively.
Data source: SBP

Chart 2.4: Trend in Current Account Balance



Source: SBP

Chart 2.5: Trend in Exchange rate and its Volatility*



*Volatility is measured using Exponential Weighted Moving Average Method based on daily data. Data source: SBP

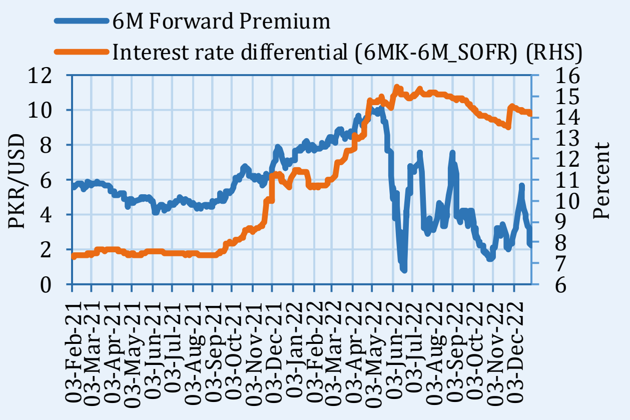
FX market

The external sector of the economy was at the forefront of spillover effects from the global and domestic developments. The Current Account Deficit (CAD), which was on a declining trend in the initial months of CY22, sharply widened in June 2022, mainly due to jump in high volume of petroleum imports at elevated price levels (**Chart 2.4**). Meanwhile, amid the strengthening of USD across the globe, uncertainty about revival of IMF program, domestic political environment, worsening macro-financial conditions and business sentiments, PKR came under significant pressure, especially in mid-June 2022. Volatility spiked in April 2022[37], peaked in August 2022 and then gradually declined by end of CY22 (**Chart 2.5**). On an overall basis, PKR depreciated by 22.0 percent in CY22 as compared to 9.4 percent depreciation in CY21.

On one hand, after the completion of Debt Service Suspension Initiative (DSSI) and amid rising global interest rates, the increase in external debt servicing was expected. On the other hand, FX inflows were also affected due to delay in completion of IMF's 9th review, which contributed to pressure on PKR.[38] Moreover, the portfolio rebalancing by foreign investors contributed in outflows from FX market.[39] On various occasions during the year, the 6-month forward premium fell sharply, suggesting tight FX liquidity conditions (**see Chart 2.6**).This was also reflected in the higher pace of decline in FE-25 deposits vis-à-vis lower decline in FX loans extended against such deposits (**see Chart 2.7**).

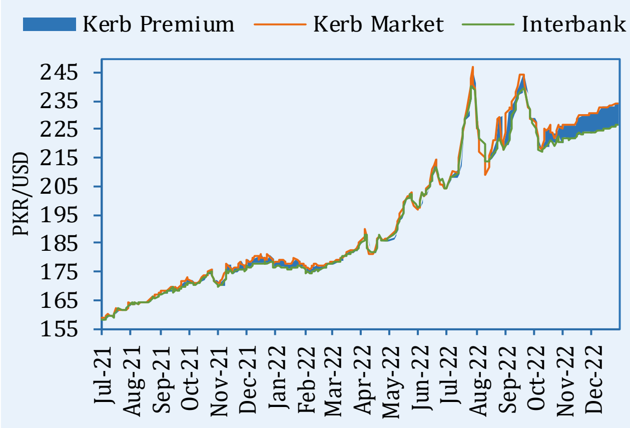
[37] By end of June 2022, PKR depreciated by 13.8 percent, when compared to end December 2021.
[38] External debt servicing (principal + markup) rose to USD 19.3 billion in CY22 from USD 12.4 billion in CY21.
[39] The net portfolio outflows were USD 0.8 billion in CY22 compared to USD 0.39 billion net outflows in CY21.

Chart 2.6: 6M Forward Premium



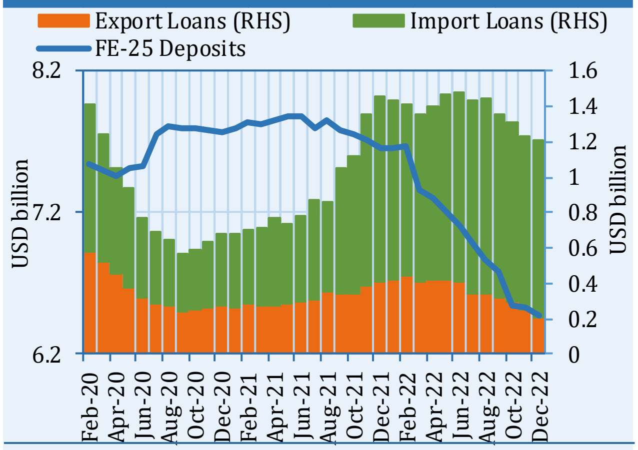
Source: SBP and New York Fed

Chart 2.8: Movement in Kerb-Interbank Premium



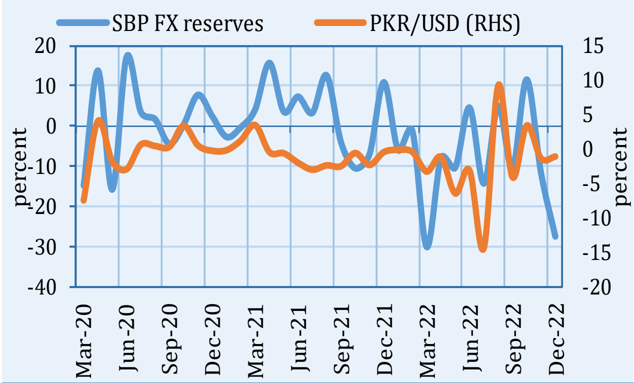
Source: SBP

Chart 2.7: FE-25 Deposits and Loans



Source: SBP

Chart 2.9a: MoM change in SBP FX Reserves and PKR per USD



Source: SBP

Amid persistent uncertainty, the KERB premium widened especially in H2CY22 …

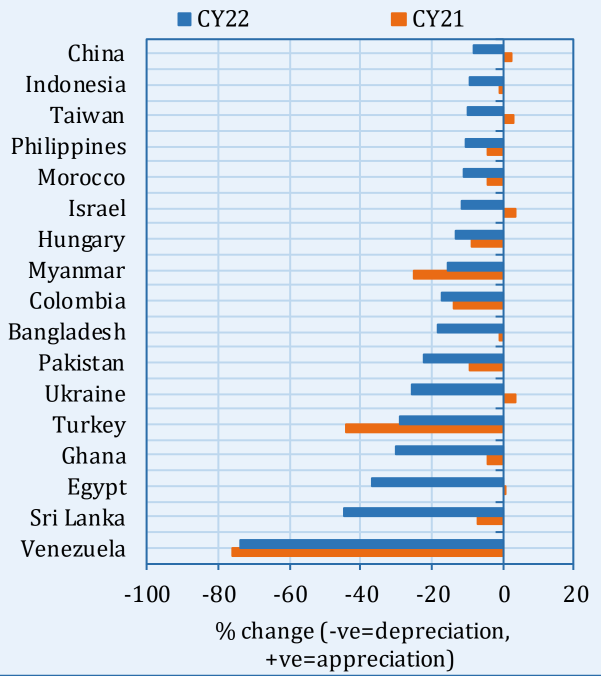
The open-interbank differential (KERB premium) also widened by mid-2022, which after some moderation in Q3CY22 again started rising till the end of CY22 (**Chart 2.8**).[40] This was despite the fact that the CAD showed visible improvement in H2CY22, as stabilization measures started to reflect in lower imports. However, due to repayment of loans, SBP reserves also fell significantly during Q4CY22 (**Chart 2.9a**). The rising stress coupled with exchange rate volatility widened the spread between open and interbank rates.

Currencies of other EMDEs also faced pressures during CY22 …

However, it may be important to note that the PKR was not the only currency, which remained under pressure; currencies of many other emerging market economies such as Türkiye, Bangladesh, Philippines and Indonesia also faced depreciation in CY22 (**Chart 2.9b**).

[40] The average spread between KERB and interbank spot rate rose to PKR 2.41 per USD in CY22 from average spread of PKR 0.60 per USD in CY21.

Chart 2.9b: Change in Exchange Rate in Selected EMs



Source: Haver Analytics

SBP regulated financial institutions such as banks showed resilience to volatility in the FX market...

Despite the significant volatility and liquidity pressures in the FX market, the major players of financial markets such as banks showed resilience to market conditions and continued to function smoothly, though the volume of their FX business significantly reduced as imports dampened due to stabilization measures of SBP and government of Pakistan.[41] Banks are subject to prudent regulatory limits on FX positions, and they usually maintain a limited exposure in FX.

Nonetheless, some increase in Net Open Position was observed towards the end of CY22, which indicates slight increase in sensitivity to changes in markets rates. However, the small size of this open position vis-à-vis capital cushions of banks imply contained risks to solvency of banks (see the section on market risk in **chapter 3** on **Banking**).

Money market

To counter external imbalances and rising inflationary pressures, SBP continued its monetary tightening that was initiated in September 2021. During CY22, SBP further raised the policy rate by a cumulative 625 bps (250 bps in April, 150 bps in May, 125 bps in July and 100 bps in November 2022). The overnight rate responded accordingly, with the sharpest spike in volatility in April 2022 (**Chart 2.10**). Within the year, the money market exhibited relatively tight liquidity conditions in H1CY22, which was also reflected in positive spread between overnight repo rate and policy rate (**Chart 2.11**). Amid higher government borrowing, financing requirements for commodity operations and private sector credit during H1CY22, SBP had to opt for large OMOs; on a few occasions, SBP conducted around PKR 4 trillion OMOs injections during H1CY22.[42]

However, in the second half of the year, not only the average OMOs injections'[43] size fell to PKR 510.2 billion (from PKR 1.35 trillion in H1CY22), SBP also conducted 11 mop-ups with average size of PKR 317.1 billion – suggesting relatively liquid market conditions in H2CY22. Although some occasional spike of OMOs injections also occurred in later part of CY22 (**Chart 2.12**), which was in sync with the quarterly decline in deposits, as banks strategized to improve their ADR, so as to rationalize the impact of taxation on their income from government securities.[44]

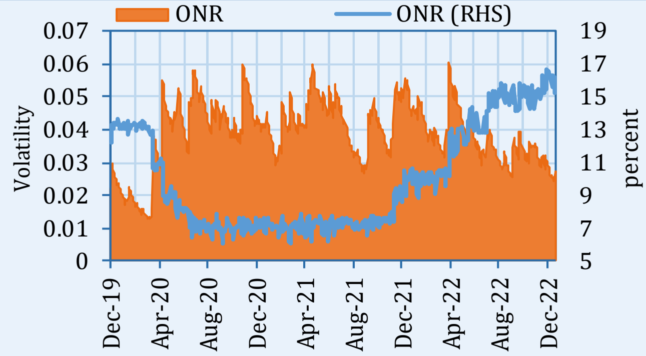
[41] These measures mainly include, increase in SBP policy rate, linking the interest rate on the export refinance scheme (EFS) and LTFF to policy rate, and widening the set of import items subject to cash margin requirements. For detail, see monetary policy statements of SBP.

[42] The longer tenor OMOs (63 days) introduced towards the end of CY21, was continued by SBP, in fact, introducing even longer term OMOs such as 70 days.

[43] SBP also started conducted Shariah-compliant OMOs for the eligible financial institutions, the numbers here also include them.

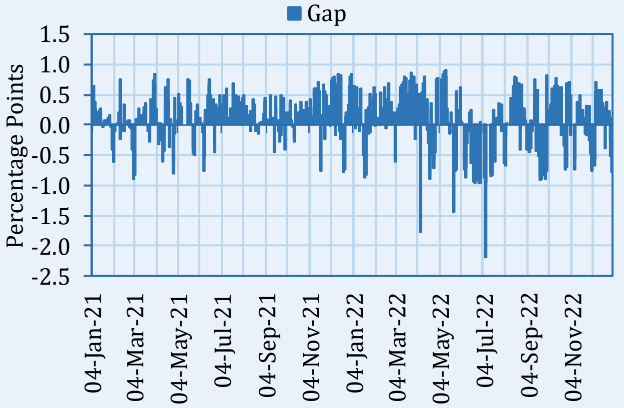
[44] For details, see the section on profitability in Mid-Year Performance Review of the Banking Sector for H1CY22.

Chart 2.10: EWMA Volatility of Overnight Repo Rate (ONR)



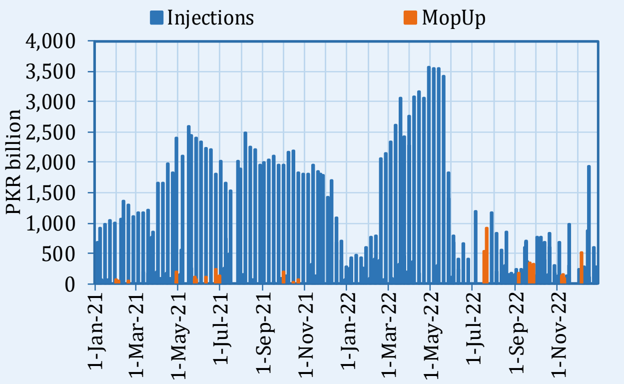
Volatility is calculated using Exponential Weighted Moving Average Method based on daily data Source: SBP

Chart 2.11: Gap between Overnight Repo Rate and policy rate



Source: SBP

Chart 2.12: OMOs Injections and Mop-ups

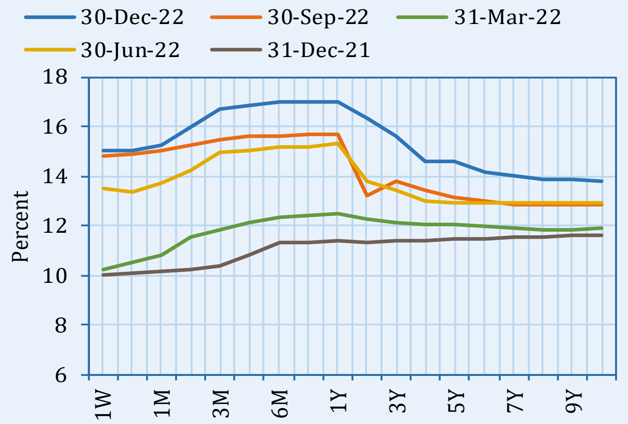


Source: SBP

Inversion in Yield curve deepened by end CY22 ...

Amid sharply rising domestic inflation in H2CY22 and external account concerns, SBP continued raising policy rate in H2CY22. The yield curve showed upward movements but started inverting (**Chart 2.13**). By end of the year, the inversion in yield curve further deepened and it appeared that the market had already priced in the impact of macroeconomic stabilization measures in forming interest rate expectations. The higher yields on shorter tenors raised demand for these government securities in secondary markets (**Chart 2.14**), which seems in line with the rising interest rates scenario.

Chart 2.13: Upward shift in Yield Curve



Source: MUFAP

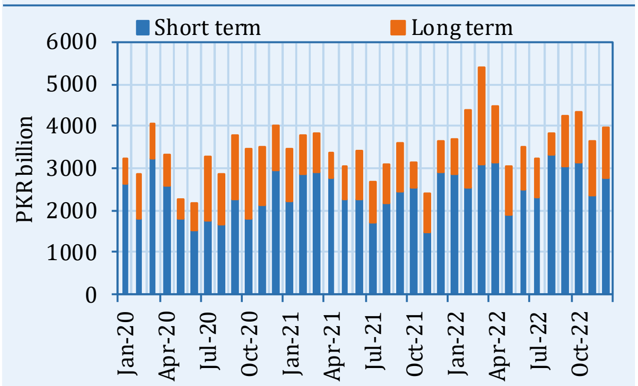
Market's auction behavior was dynamic in response to the changing environment ...

The market took keen interest in short term instruments, though its intentions for placing funds in long-term fixed rate instruments such as PIBs were also visible in the offer to target ratios in H1CY22. It appears that some of the market participants perceived that long-term secondary market yields have reached their peak in Q2CY22, which might have influenced their bidding behavior in placing funds in fixed rate PIBs and Fixed Rental Rate (FRR) Sukuk in H1CY22.

However, with the rising inflation in H2CY22, interest in short term and floating rate instruments revived again but the government tried to mobilize resources from fixed rate PIBs and Sukuk, as it accepted higher than target amounts in all quarters of CY22 (except Q4CY22). In fact, the government tried to lock a part of cost of debt in the rising interest rate scenario.

In line with the increasing reliance of government on domestic resource mobilization especially from banks in recent years, investment in government securities has reached a significant level in banks' assets. A large share of this investment is held in available for sale (AFS) category followed by held for trading (HFT) investments in the secondary market; these two categories of investment are regularly marked to market. Accordingly, banks' exposure to interest rates changes have increased over time. Due to upward movements in PKRV rates, the revaluation deficit on banks' holding of government securities rose to PKR 235.8 billion at end Dec-22 from a deficit of PKR 70.9 billion at end Dec-21, and banks booked lower trading gains of PKR 2.2 billion on sale of government securities in CY22 compared to PKR 9.4 billion in CY21 and PKR 46.3 billion in CY20.

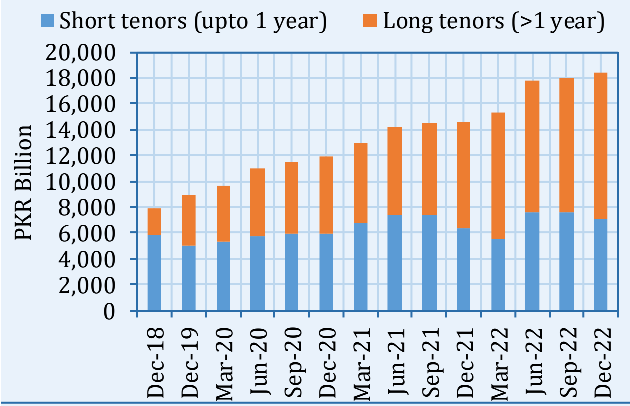
Chart 2.14: Short tenors dominated trading of Government Securities in Secondary markets



Source: SBP

Though the share of long-term investments (i.e. investment having remaining time to maturity greater than 1 year) in banks' total investments has increased to 62 percent by end Dec-22 (57 percent at end Dec-21) (**Chart 2.15**), the share of floating rate portfolio has also gradually increased to 50.2 percent by end Dec-22, which indicates lowering in sensitivity to interest rates movements. Moreover, the relatively lower upward shift in yield curve in the longer tenors (> 1 year) as compared to shorter-tenors,[45] also resulted in contained revaluation losses on long-term securities.

Chart 2.15: Trend in banks' investments as per remaining maturity



Source: SBP

Accordingly, banks' resilience to adverse market shocks largely remained firm over time. The results of sensitivity (stress testing) analysis shows that under the most severe shock scenario (i.e. parallel upward shift in the yield curve by 300 basis points), CAR of most of the banks remains well above the minimum requirement (for detail see **Chapter 3** on **Banking**). [46]

Equity market

CY22 was a challenging year for equities …

Most of the equity markets across the globe could not perform well during CY22.[47] The domestic equity market also posted a lackluster performance in most of CY22 (**Chart 2.16**). The benchmark KSE-100 index fell 9.4 percent over CY22 (1.9 percent growth in CY21). Investors mostly exhibited cautious behavior as reflected by low trading volumes (**Chart 2.17**).[48] The volatility

[45] Short tenor rates rose 557 bps (average of change in 1 week to 1-year tenor PKRV rates), compared to only 276 bps (average of change in 2 years and above tenor PKRV rates) in CY22.

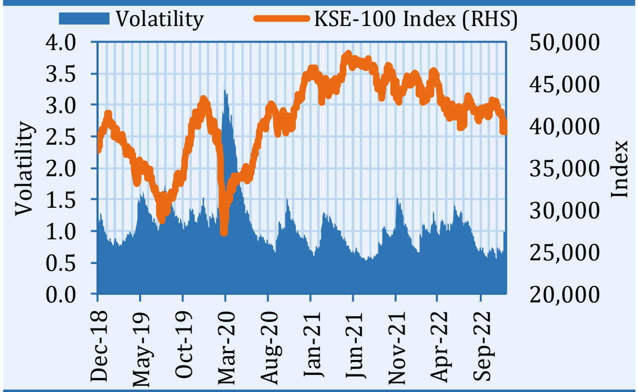
[46] For details, see the results of sensitivity analysis published in Quarterly Compendium: Statistics of the Banking System for December 2022.

[47] For instance, the S&P 500 index declined 19.4 percent and Shanghai Stock Exchange Composite Index declined 15.1 percent YoY in CY22. GFSR (IMF) October 2022 has also highlighted the fall in equity prices during CY22.

[48] Average daily trading volume of KSE-100 declined to 100.1 million shares in CY22 as compared to average daily trading volume of 191.1 million shares in CY21. Data source: Bloomberg.

in KSE-100 index remained on higher side during H1CY22, which gradually declined before emerging again towards the end of the year, as the operating environment became more uncertain.

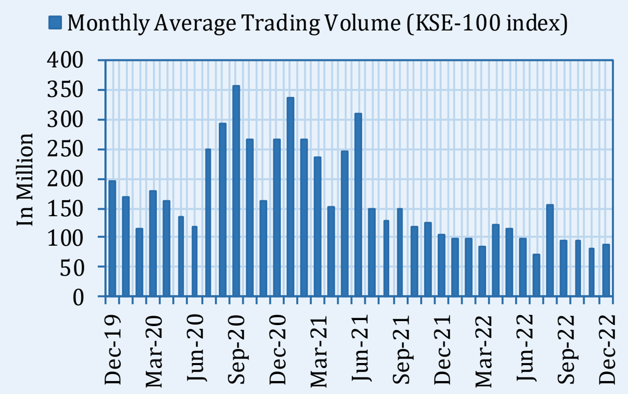
Chart 2.16: Trend in KSE-100 Index and its Volatility*



*Volatility is measured using Exponential Weighted Moving Average Method. Data source: PSX

The major reasons influencing the lackluster performance of equity market include: (i) macroeconomic imbalances, higher inflation, rising interest rates, (ii) a depreciating PKR, (iii) falling corporate profit margins, (iv) IMF program related uncertainties, (v) super tax on certain sectors (announced in mid-2022), (vi) heavy flash floods in H2CY22 and the ensuing damages to important industrial input such as cotton and other crops, and last but not least (vii) domestic political dynamics.

Chart 2.17: Trend in Trading volume of shares in KSE-100 Index

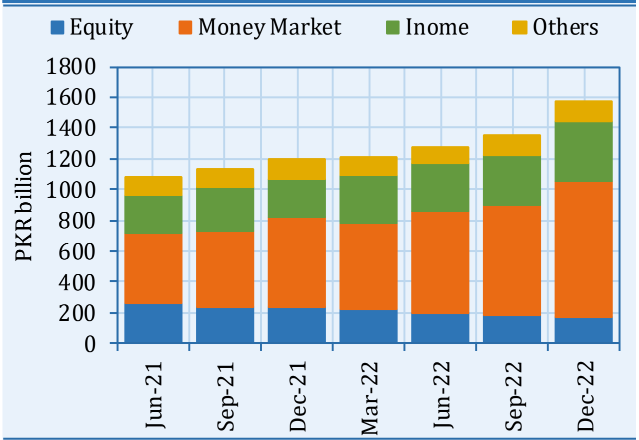


Source: Bloomberg

A general risk averse behavior was visible ...

Different investor types exhibited risk averse behavior. Insurance and mutual funds were net sellers of equities in CY22 and shifted their interest to money market avenues (**Chart 2.18**). Particularly, mutual funds (which are the major players in NBFIs) reduced their equities' holdings and increased the share of money market investments – a flight to safety behavior.

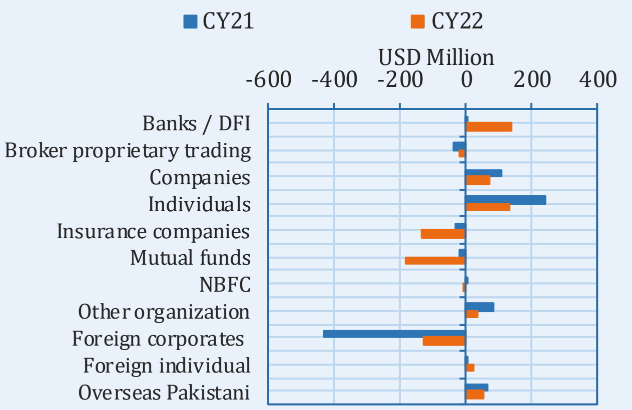
Chart 2.18: Composition of Mutual funds Assets



Data source: SECP

Foreign investors were net sellers which was consistent with their strategy to rebalance portfolio towards risk-free assets amid rising rates in AEs, and stressed macro financial conditions of the country. However, overseas Pakistanis showed interest in domestic equities, as they were also facilitated by the initiatives of SBP and SECP to allow Pakistani diaspora to invest in equities through their RDA accounts (**Chart 2.19**).[49]

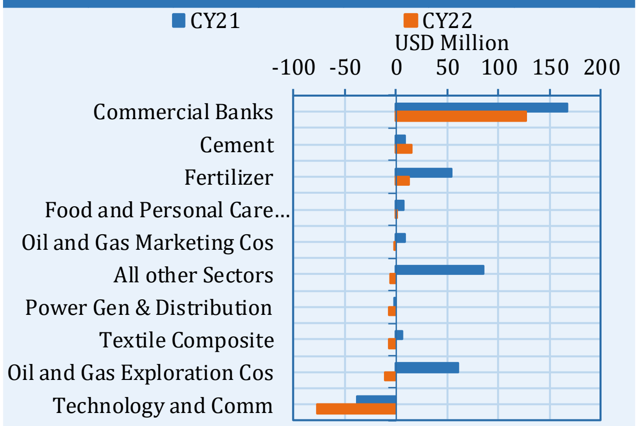
Chart 2.19: Mutual Funds and Insurance were prominent sellers in CY22



Source: NCCPL

Sector wise, banks' shares were the preferred stock among investors during CY22, as the rising policy rates further improved the earnings' outlook of banking sector (**Chart 2.20**). However, the amount of investment in banks' stock remained lower than in CY21, which was in line with general dampening in the investors' interest for equity stocks.

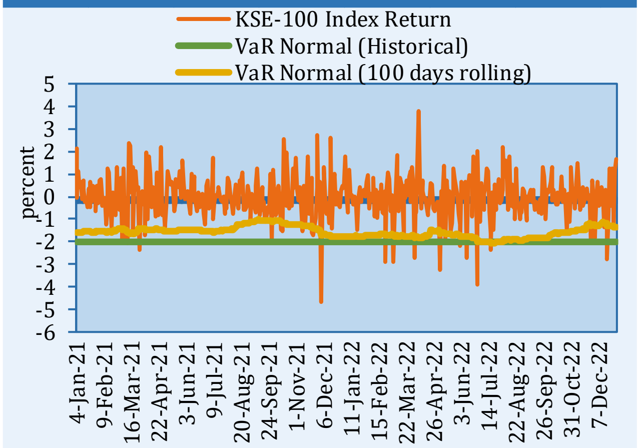
Chart 2.20: Investment in banks' stocks was prominent in CY22



Note: Cos = Companies, Source: NCCPL

During CY22, the daily returns of KSE-100 index breached the Value at Risk (VaR) Normal (100 days rolling) on 13 occasions (14 instances in CY21) but the average magnitude of breaches was higher in CY22 than last year (**Chart 2.21**).

Chart 2.21: Value at Risk of KSE-100 Index returns



Data source: PSX

However, the stress episodes could not translate into any significant stability concerns for SBP regulated entities such as banks. Due to a conservative regulatory regime of SBP, banks are maintaining limited exposure to the equity market, which results in lower sensitivity to the volatility in equity market. Banks' investment in equities declined to 6.8 percent of capital[50] at end Dec-22, from 7.3 percent at end Dec-21. The latest sensitivity (stress testing) results also suggest that even with a hypothetical shock scenario of 40 percent decline in equity prices, no CAR-compliant bank is expected to breach the regulatory minimum requirement of CAR.[51]

Lackluster fresh issuances during CY22…

Amid a challenging macroeconomic environment that was further hindered by the Omicron wave of COVID-19 and its ensuing stresses, domestic equity market witnessed the lowest listing of new companies during last three years. Despite the two

[49] The capital market entities, banks and SBP marked the launch of the Roshan Equity Investment (REI), a product offered to non-resident Pakistanis under the umbrella of Roshan Digital Account introduced by SBP in 2020. For details, see [PSX press release](#).

[50] The ratio represents Net Open Position in equities to capital.

[51] For details see the results of sensitivity (stress testing) analysis published in [Quarterly Compendium: Statistics of the Banking System for December 2022](#).

Initial Public Offerings (IPOs) during CY22, the total number of listed companies declined to 531, while no new debt instrument was issued during CY22 (**Table 2.1**).

The limited outreach and development of capital market constrains the corporate sector's ability to raise funds through tradable bonds.[52] Therefore, even large and relatively good quality borrowers which – unlike SMEs, agriculture borrowers – have better capacity to access capital market for meeting their financing needs, borrow from banks. As a result, banks remain the major supplier of credit and finance in the economy and a major part of their loan portfolio remains skewed towards large scale corporate borrowers. Though most of these borrowers have sound financial standings to withstand unexpected macroeconomic shocks (for details see chapter on **Risk Analysis of Non-financial (Corporate) Sector** and **box** on **Performance & soundness of top borrowing groups**), the corporate debt market only shares limited financial risks as compared to other players of the financial market especially banks.[53]

Importantly, the tame performance of domestic equity market was in line with the performance of other markets in CY22. Equity indices in regional economies such as Bangladesh, China, Malaysia, Philippine, South Korea, and Taiwan have also recorded YoY decline in CY22 (**Chart 2.22**).[54] Nonetheless, the Price to Earning (P/E) ratio of KSE-100 index suggested that valuations may be attractive and have good prospects, which was also reflected in buybacks of issued shares by several listed firms during CY22.

Table 2.1: Progress of capital market in Pakistan during CY20-CY22

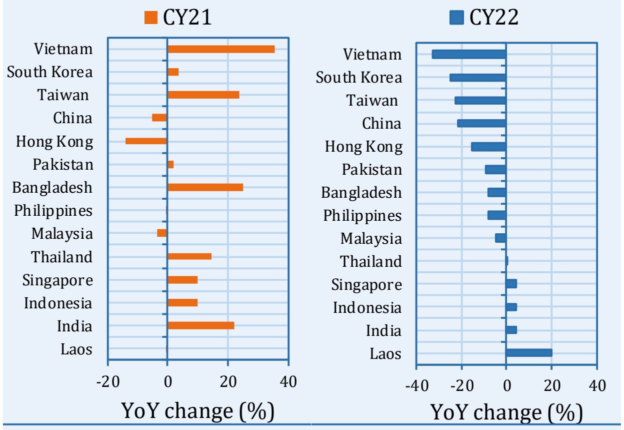
	2020	2021	2022
Total No. of Listed Companies	531	533	531
Total Listed Capital - Rs. in Million	1,421,094	1,485,103	1,552,728
Total Market Capitalisation - Rs. in Million	8,035,364	7,684,637	6,500,828
KSE-100™ Index	43,755	44,596	42,420
KSE-30™ Index	18,180	17,502	14,836
KMI-30 Index	71,168	71,687	68,278
KSE All Share Index	30,780	30,727	27,533
PSX-KMI All Shares Index	21,718	22,027	19,987
New Companies Listed during the year	3	7	2
Listed Capital of New Companies - Rs in Million	14,197	16,009	2,644
New Debt Instruments Listed during the year	7	5	-
Listed Capital of New Debt Instruments - Rs. in Million	246,967	25,100	-
Average Daily Turnover - Regular Market (Shares in Mn) (YTD)	330	474	230
Average Value of Daily Turnover - Regular Market (Rs in Mn) (YTD)	12,271	16,935	6,950
Average Daily Turnover - Future Market (Shares in Mn) (YTD)	102	141	94
Average Value of Daily Turnover - Future Market (Rs. In Mn) (YTD)	4,740	8,315	3,574

YTD = Year to date

EoP= End of Period

Source: SECP

Chart 2.22: Performance of Stock exchanges in selected EMs



Source: Haver Analytics

Going forward, the performance of domestic financial markets will depend on i) the evolving situation of Russian-Ukraine war, ii) global economic outlook and movement of commodity prices, iii) further adjustments in domestic monetary policy stance, iv) political developments, and iv) revival of IMF 9th review.

[52] According to SECP, Pakistan has only 210,000 retail investors, which is quite low in comparison to regional markets such as Bangladesh having 2.7 million investors, Malaysia (2.5 million), Thailand (1.46 million), India (32 million retail investors) and Sri Lanka (630,000 retail investors). Further, Pakistan ranks lower on Market Capitalization to GDP among the regional countries such as India and Bangladesh. Source: Capital Markets Development Plan and Road Map 2020 -2027.

[53] For details, please see SBP's Governor's Annual Report.

[54] Dhaka Stock Exchange: General/Broad Index (EOP, Jan-17-08=2951.91) for Bangladesh, Shanghai Stock Price Index: Industry (EOP, Apr-30-1993=1358.78) for China, Stock Price Index: FTSE Bursa Malaysia KLCI (EOP, Jan-1-77=100) for Malaysia, Stock Price Index: Manila Composite (EOP, Jan-2-85=100) for Philippines, Korea Composite [KOSPI] (EOP, Jan-04-80=100) for South Korea, Taiwan Stock Exchange Capitalization Weighted Price Index (EOP, 1966=100) for Taiwan.

Section A: Performance and Risk Analysis of Banking Sector

Chapter 3: The Banking Sector

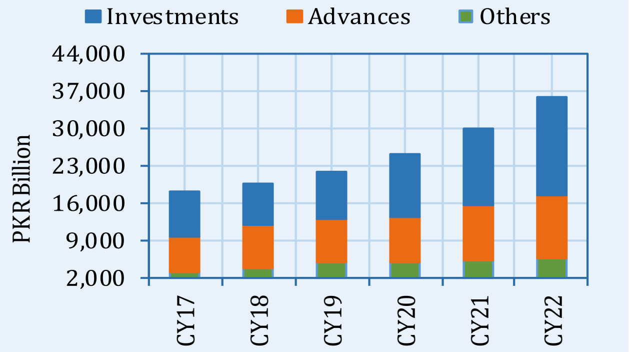
Banking sector stability indicators largely remained stable during CY22, though the overall macroeconomic dynamics portended significant challenges. Asset base of the sector showed steady growth that was mainly supported by investments, as exposure to the public sector increased further. In the wake of slowdown in deposits, banks' reliance on borrowings increased substantially. Earning indicators improved mainly on the back of net interest income, though tax expense significantly increased during CY22. Asset quality indicators manifested no serious concern despite damages due to floods and tighter financial conditions, and banks continued to maintain ample liquidity buffers and complied with the regulatory standards with wide margins. Encouragingly, the solvency position of the sector remained firm as CAR remained well above the minimum standard while the capital impairment ratio was at one of the its lowest levels during the past two decades. Islamic banking segment maintained its higher-than-industry growth momentum and its key FSIs of asset quality, earnings and liquidity showed improvement.

Banking sector posted steady growth mainly on the back of investment in government securities; while its overall risk dynamics largely remained satisfactory during CY22, reliance on borrowings however remained high

Asset base of the banking sector grew by 19.1 percent during CY22 — almost consistent with the 19.6 percent growth observed in last year. Like CY21, investments mainly supported the balance sheet expansion during the year under review, while growth of advances slightly decelerated[55] (**see Chart 3.1**).

It is noteworthy that due to increased borrowing of the government over the last few years, banks' asset composition has consistently shifted away from advances toward investments, which mainly comprise government securities. For instance, in CY18, the share of banks' exposure in investments and advances as a proportion of total assets was almost in balance at around 40 percent each. Afterwards, the share of investments in government paper steadily increased to 51.4 percent by end CY22 while the share of advances declined to 33.0 percent. Specifically, at end CY22, investment in government securities constituted 47.9 percent of banks' asset base (44.3 percent in CY21), while total credit to public sector (investments + loans to public sector enterprises (PSEs)) came to 55.5 percent of the asset base (51.8 percent in Dec-21). This high and growing public sector's exposure has a number of implications for the banking sector including crowding out of private sector credit and re-pricing/revaluation risks, among others.

Chart 3.1: Assets composition of the banking sector (Stocks)

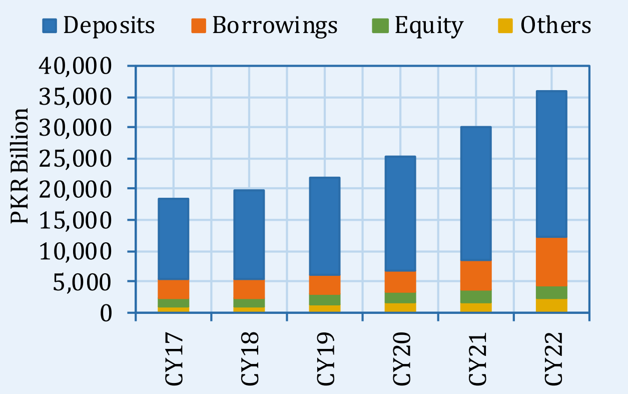


Source: SBP

On the funding side, banks' deposits registered a muted growth of 8.0 percent during CY22– the lowest mobilization rate in the last 7 years. In the wake of robust asset expansion and increased funding gap, banks' reliance on borrowings further increased during CY22 (**see Chart 3.2**).

[55] Investments and advances contributed to assets growth by 12.8 percent and 5.7 percent, respectively.

Chart 3.2: Funding composition of the banking sector (Stocks)



Source: SBP

In tandem with robust asset expansion, profitability surged by 27.4 percent in the reviewed year (8.3 percent growth in CY21), mainly driven by net interest income.

Asset quality dynamics remained favorable as delinquencies were contained and Gross Non-Performing Loans Ratio (GNPLR) moved down to 7.3 percent in CY22 from 7.9 percent a year ago.

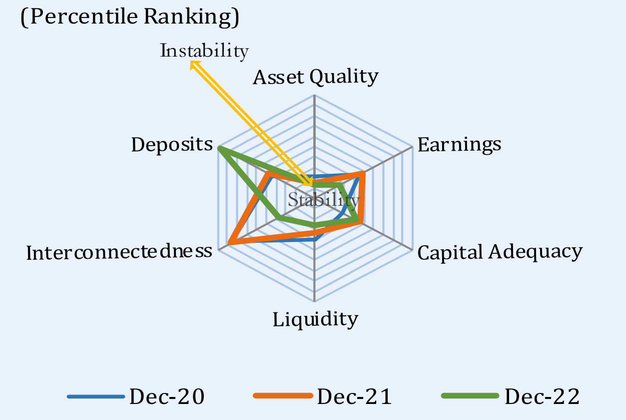
Besides, banks' liquidity indicators showed further improvements due to expansion in liquid assets. Banks met the Basel liquidity standards i.e. Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) with wide margins. In addition, interconnectedness of the banking sector notably reduced manifesting banks' efforts to curtail deposits from other banks and financial institutions in order to improve their Advances to Deposits Ratio (ADR).

On the solvency front, banks maintained satisfactory loss absorbing capacity on the back of adequate capital base, steady earnings, and low non-performing loans. Capital Adequacy Ratio (CAR) under Basel capital accord-III stood at 17.0 percent that was well above the minimum regulatory requirement of 11.5 percent.

The overall risk profile of the banking sector reveals encouraging improvement in the different risk dimensions. Nonetheless, the sharp slowdown in deposits remained a concern (**Chart 3.3**).

Islamic banking segment maintained growth momentum by expanding 29.6 percent during CY22. Besides contained credit risk, IBIs' earnings rebounded during the year translating into enhanced capital buffers.

Chart 3.3: Banking Sector Stability Map

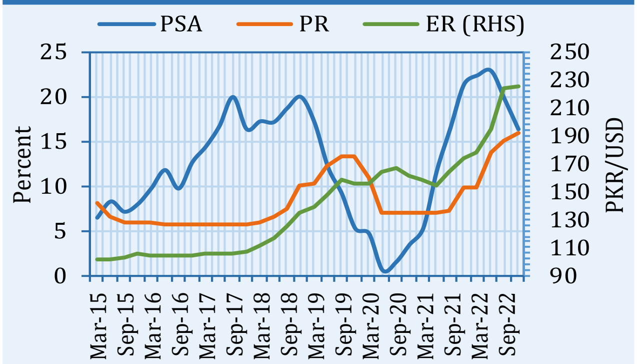


Source: SBP

Growth in private sector advances slowed in the face of unfavorable macroeconomic environment and high credit demand of government, however it remained noticeable ...

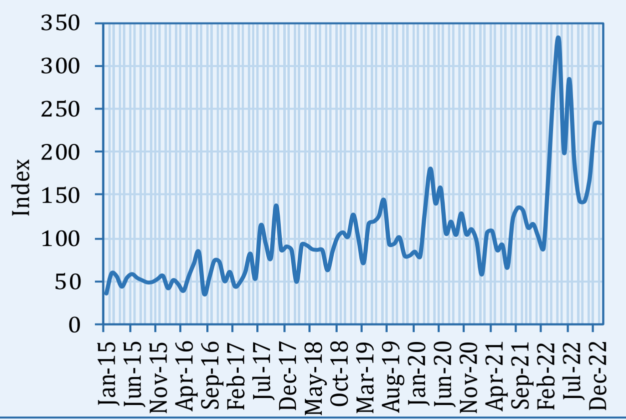
Private Sector Advances (PSA) increased by 16.4 percent during CY22 (21.5 percent in CY21). The strong momentum of PSA which prevailed till Jun-21 gradually began to weaken during H2CY22, as the economic activity slowed down due to macroeconomic stresses and consequent stabilization measures, while the flooding of Q3CY22 further compounded the challenges (**see Chart 3.4**). Specifically, policy rate was raised by 625 bps to 16 percent during CY22, and several policy actions were taken to contain aggregate demand including high bank cash reserve requirement, regulatory tightening of consumer finance, and curtailment of non-essential imports. In addition, PKR witnessed a marked depreciation due to external account pressures and dried up access to external finance, while political dynamics further heightened the uncertainty (**see Chart 3.5).** In this backdrop, Large Scale Manufacturing (LSM) index —after showing strong activity in H1CY22—lost its momentum during H2CY22.[56] Furthermore, Business Confidence Index (BCI)[57] slid to 40 (below the benchmark of 50) by end CY22 (55 in April-22): the lowest level since April-20.

Chart 3.4: Private sector advances, policy rate and exchange rate



Note: PSA represent YoY growth
Source: SBP

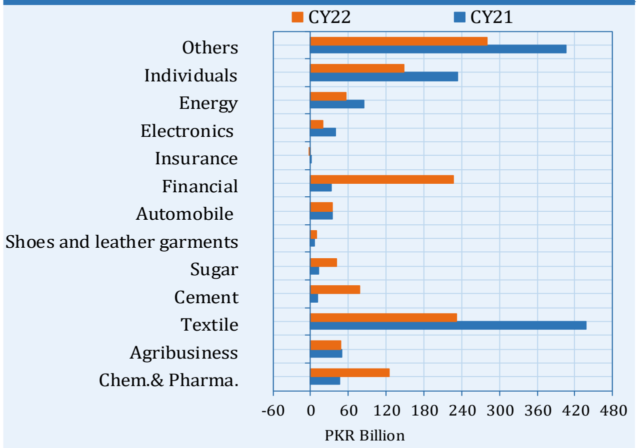
Chart 3.5: Economic policy uncertainty index



Source: SBP

Sector-wise flow of PSA during CY22 indicates that 57 percent of the total fresh advances were availed by the textile, financial, chemicals and pharmaceutical sectors along with individuals. Compared to the previous year, credit off-take by textiles sector remained significantly lower in CY22 reflecting weak global demand and lackluster performance of the domestic economy amid demand-curtailing measures and rising input costs (see **Chart 3.6**). Moreover, the inventory building process of the sector was also affected by the flooding in Q3CY22, which significantly damaged the cotton crop. (see **Global and Domestic Developments in Chapter 1**).[58] Similarly, advances to the energy sector recorded lower growth than the previous year. It appears that payments made to the power sector firms under circular debt settlement arrangements lowered their need for banks' credit. Also, long-term advances of certain firms matured as per schedule.

Chart 3.6: Sector-wise private sector advances flow



Source: SBP

Contrary to textiles and energy sectors, chemicals & pharmaceutical, financial, sugar and cement sectors availed higher financing during the reviewed year. In case of chemicals & pharmaceutical, higher financing flows could be attributed to sharp increase in raw material prices.[59] Impressive rise in advances towards non-bank financial sector indicates banks efforts to shore-up their advances as part of their asset-liability management strategy to improve ADR. In the sugar sector, 33 percent rise in sugarcane support price[60] during CY22 explains the growth in advances to finance the inventory. Firms in cement sector availed notably higher advances

[56] LSM YoY growth averaged -3.8 percent in H2CY22 as compared to 16.0 percent in H1CY22.
[57] BCI value below 50 shows dominance of pessimistic view about economic outlook.
[58] In CY22, textiles exports grew by 11.6 percent as compared to 32.4 percent growth in CY21.
[59] WPI increased, on average, by 31.1 percent in CY22 against 16.3 percent in CY21.
[60] Support price for sugarcane was fixed at PKR300 per maund in 2022 from PKR 225 in 2021.

owing to both increased input prices and capital investments.

Segment-wise analysis of PSAs reflects that the corporate sector remained the major user of bank finance. During the year under review, corporate sector took significant advances for working capital needs reflecting a mix of strong economic activity especially in the first half of CY22 and fast increase in input prices over the year. On the other hand, long-term advances of the corporate sector also increased during CY22, as a little over 25 percent of the additional loans were taken under SBP's concessionary refinance schemes i.e. Temporary Economic Refinance Facility (TERF) and Long Term Financing Facility (LTFF) together. The remaining long-term advances provided from banks' own sources partly manifested the impact of PKR depreciation on financing of import LCs of capital goods.

Table 3.1: Segment-wise private sector advances (stocks)

PKR Billion	Dec-20	Dec-21	Dec-22
Corporate Sector:	4,818	5,869	6,956
Fixed Investment	1,912	2,277	2,695
Working Capital	**1,742**	**2,106**	**2,703**
Trade Finance	1,164	1,486	1,558
SMEs:	**452**	**511**	**524**
Fixed Investment	104	125	139
Working Capital	308	345	347
Trade Finance	40	41	38
Agriculture	336	398	442
Consumer Finance:	**626**	**810**	**889**
Credit Cards	**51**	65	86
Auto Loans	258	351	333
Consumer Durable	1	2	1
Mortgage Loan	86	**144**	**215**
Other personal Loans	229	248	254
Commodity Financing	108	116	145
Staff Loans	**164**	**198**	**243**
Housing Finance	129	152	186
Others than housing finance	**34**	**46**	**57**
Others	**4**	**2**	**1**
Total	**6,508**	**7,904**	**9,201**

Note: These advances represent lending to domestic private sector

Source: SBP

Unlike fixed investment and working capital advances, trade financing flows remained low due to reduced demand for trade credit in the wake of slowdown in imports and foreign trade.

SMEs have a relatively small share in banks' overall loan portfolio. During the reviewed year, growth in credit to SMEs remained lower than last year. This year the anemic growth in lending to SMEs was mainly driven by long-term financing. A government sponsored finance scheme i.e. Prime Minister's Kamyab Jawan Youth Entrepreneurship Scheme significantly augmented the flow of long-term financing to SMEs over the last couple of years. Since this scheme was temporarily suspended in the mid of CY22,[61] the growth in long-term financing to SMEs slightly moderated. On the other hand, working capital finance posted only a slight uptick despite increase in input prices. This indicates that in the face of rising interest rate and a slowdown in economic activity, the supply and demand of SME credit was affected: banks adopted a risk averse strategy whereas the SMEs reduced their reliance on bank credit.

Consumer financing also slowed down and its share in overall private sector loan portfolio of banks almost remained stable at 7.5 percent. The slowdown was mainly contributed by net retirement in auto financing, reflecting the impact of SBP macro-prudential measures which, inter alia, shortened the term of auto loans, reduced the loan-to-value ratio, and increased the requirement in respect of debt-servicing capacity. Moreover, auto industry faced marked reduction in production and sales of automobiles due to external account pressures and significant increase in prices of automobiles. However, mortgage financing kept the growth momentum under enabling policy environment and got traction from government sponsored refinance

[61] The scheme was launched by the Government in July 2019 in order to provide self-employment opportunities to unemployed youth by offering subsidized loans. The scheme was put on hold from July 01, 2022 and was re-introduced with certain amendments on December 12, 2022.

scheme[62] although the latter was suspended in CY22. (**Table 3.1**)

Public sector advances increased by PKR 454.7 billion to PKR 2,719 billion during CY22 (against PKR 274.6 billion increase in CY21). The government borrowed PKR 240.8 billion for commodity operations—notably higher than the previous year's borrowing of PKR 149.0 billion. This increase was due to substantial uptake in wheat financing driven by noticeable rise in minimum support price and higher wheat imports during CY22.[63]

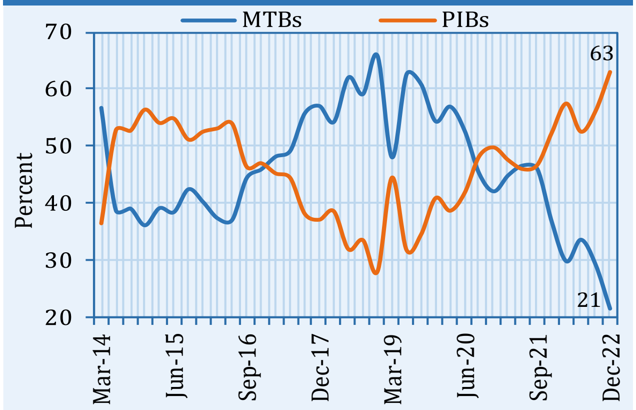
However, investments observed robust growth as government's demand for bank credit remained high…

Investment portfolio of the banks surged by 26.4 percent during CY22 to PKR 18,400 billion. Government securities, which constitute 92.7 percent of total investments, posted a strong growth of 28.8 percent. On the other hand, equity stock and private sector bonds registered a muted growth in the backdrop of lackluster performance of capital market, and their share in total investment lowered to 1.2 percent and 6.2 percent at the end of CY22 from 1.5 percent and 7.5 percent in CY21, respectively.,.

Detailed analysis shows that investments in MTBs declined by 24.5 percent to PKR 3,682 billion while investments in PIBS substantially increased by 54.8 percent to PKR 10,820 billion. However, as the banks mainly focused on floating rate bonds, the share of banks' investments in floating rate PIBs (in total holding of Government securities) increased to 49.5 percent from 38.1 percent in CY21. Similarly, investments in Ijara Sukuk also increased by 82.8 percent to PKR 2,642.9 billion during the reviewed period.

It is noteworthy that since CY19, banks' exposure in short-term MTBs has been consistently ebbing while rising in the long-term bonds i.e. PIBs (**Chart 3.7**). This trend was particularly supported by the introduction of floating-rate PIBs which improves debt profile and mitigates rollover risk for the government and lowers interest rate risks for banks – though having implications for government's financing costs in a rising interest rate scenario.[64]

Chart 3.7: Percent share of MTBs and PIBs in total Govt securities



Source: SBP

A detailed analysis shows that banks' preferences for different government securities changed over the year under review, in line with the dynamics of macro financial conditions. For instance, offered-to-target ratio in the auctions of MTBs remained at 1.7 times both in H1CY22 and H2CY22. However, banks showed increased interest in the auctions of fixed-rate PIBs during H1CY22 as offer-to-target ratio was high at 5.6 times, then came down to 2.9 times in the second half. Banks' abated interest in fixed-rate PIBs in H2CY22 indicates their expectations of rise in interest rates that entails potential for revaluation losses.[65] The offered-to-target ratio for the

[62] The scheme Mera Pakistan Mera Ghar (MPMG) enables banks to provide financing for the construction and purchase of houses at very low financing rates for low- to middle-income segments of the population. However, the scheme was put on hold on June 30, 2022. Please see IH&SMEFD Circular No. 09 of 2022.

[63] Wheat support price increased to PKR 2,200 per 40KG in 2022 from PKR 1,800 per 40KG in 2021. Moreover, 3 million MT of wheat was imported in CY22 against 2.2 million MT in CY21.

[64] Mark-up payments accounted for 51.6 percent of total revenue for Jul-Mar FY23. (Source: Ministry of Finance)

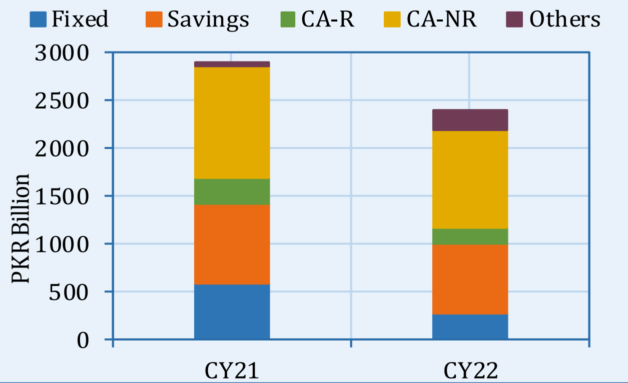
[65] Banks' revaluation losses on Federal Government securities increased to PKR 235.8 billion by end Dec-22 from PKR 70.9 billion at end Dec-21.

floating-rate bonds increased from 1.8 times in H1CY22 to 3.6 times in second half.

Deposits' growth observed notable deceleration…

Banking sector's deposits growth decelerated to 8.0 percent in CY22—down from 17.3 percent growth in previous year. A detailed analysis shows that customers' deposits, which form around 96.3 percent of total deposits, grew by 11.9 percent (compared to 16.8 percent in the last year). Within customers' deposits, marked weakening was recorded in the growth of fixed deposits – as banks strategized to lower the share of high return deposits in the funding base – followed by current and savings accounts (**Chart 3.8**). On the other hand, financial institutions' deposits contracted by PKR 662.4 billion as compared to growth of PKR 292.4 billion in CY21.

Chart 3.8: Customers' deposits flow



CA= Current Account; R= Remunerative; NR= Non-Remunerative; Source: SBP

Further analysis reveals that deposits growth during the first three quarters of CY22 remained strong at 15.7 percent, however, it dipped to 8.0 percent in Q4CY22, dampening growth numbers for the entire year.

Deposit mobilization observed a considerable deceleration owing to multiple factors. A general slowdown in domestic economic activity and home remittances[66] coupled with high inflation affected the depositors' capacity to save. Banks' incentive to enhance deposit mobilization and ALM strategy could also have been affected by the ADR-linked tax policy, which envisaged higher taxation on income from government securities for banks having lower ADR.[67] Further, muted demand for credit due to stressful macroeconomic conditions coupled with government's borrowing for budgetary needs further constrained the banks' ability to increase loan portfolio in prudent manners which resulted in a slow growth in deposit (i.e., the multiplier effect).

In the face of uncertainties and external account pressures, FX deposits declined by USD 1,182 million to USD 6,470 million in CY22 against a decline of USD 121 million in CY21.

Consequently, banks' reliance on borrowings further increased…

In the wake of growing funding gaps due to asset expansion and slowdown in deposits, banks' reliance on borrowings, especially from SBP, significantly increased over the year to PKR 7,845 billion. With an additional borrowing of PKR 3,107.1 billion during the year, the borrowings supported 21.9 percent of assets by the end CY22 (up from 15.8 percent in CY21). Borrowing from SBP dominated the overall borrowings (with 82.5 percent share), while inter-bank repo and call borrowings at the end of CY22 were lower than their last year's level by PKR 555.2 billion and PKR 49.4 billion, respectively.

Banks' profitability improved mainly on the back of increased interest income, however sharp rise in income tax charges contained the bottom line indicators

Pre-tax profit of the banking sector increased by 55.8 percent during the year to PKR 703.0 billion

[66] Remittances contracted by 4.8 percent during CY22.
[67] Under the Finance Act, 2021, income attributable to investment in the Federal Government securities of banks was made taxable at tax rates of 40 percent, 37.5 percent and 35 percent, if ADR was up to 40 percent, between 40 to 50 percent and above 50 percent respectively. The Finance Act 2022 has further enhanced these rates, that is, for tax year 2023 and onwards, tax rates will be 55 percent, 49 percent and 39 percent for these ADR slabs, respectively. Source: FBR Circular C.No.4(21) IT-Budget/2022 dated July 21, 2022. However, this policy has been withdrawn for tax year 2024. Source: S.R.O 226 (I)/2023.

(**Table 3.2**). The year was marked by a sharp tightening in monetary policy which drove-up interest income as the increases in policy rate continued to translate into prices of banks' earning assets.

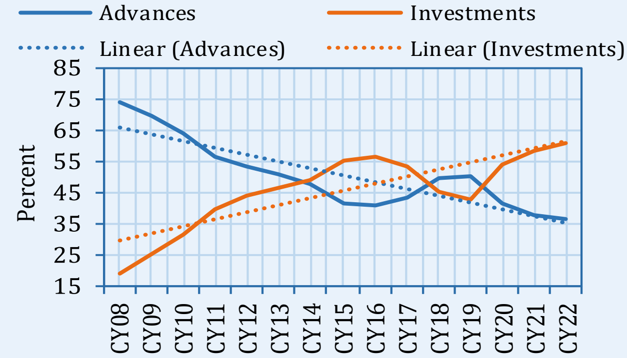
Table 3.2: Profit and Loss Statement

PKR Billion	CY21	CY22	YoY Growth
Mark-Up/ Return/Interest Earned	1,832	3,420	87
Mark-Up/ Return/Interest Expenses	993	2,243	126
Net Mark-Up / Interest Income	**839**	**1,177**	**40**
Provisions & Bad Debts Written Off Directly/(Reversals)	50	59	17
Net Mark-Up / Interest Income After Provision	**789**	**1,119**	**42**
Fees, Commission & Brokerage Income	143	173	21
Dividend Income	18	22	20
Income From Dealing In Foreign Currencies	35	80	132
Other Income	43	23	(46)
Total Non - Markup / Interest Income	**239**	**298**	**25**
Total Income	1,027	1,417	38
Administrative Expenses	565	705	25
Other Expenses	11	10	(13)
Total Non-Markup/Interest Expenses	**576**	**714**	**24**
Profit before Tax and Extra ordinary Items	451	703	56
PROFIT/ (LOSS) BEFORE TAXATION	**451**	**703**	**56**
Taxation/ (Reversal, Benefit)	187	367	96
PROFIT/ (LOSS) AFTER TAX	**264**	**336**	**27**

Source: SBP

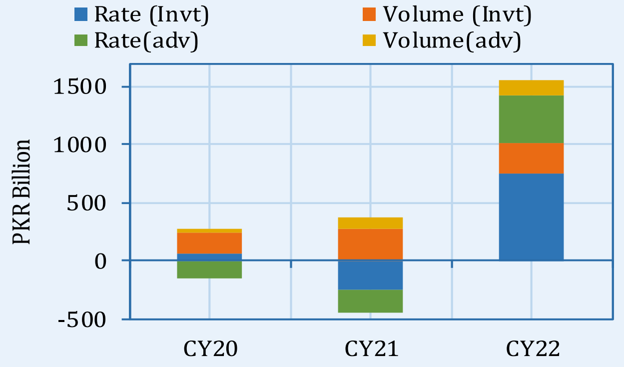
Besides increase in interest rates, expansion in the volume of earning assets also augmented the interest income which grew by 86.7 percent in CY22 (decline of 4.8 percent in CY21). Importantly, share of interest income from investments has been increasing over time in line with increase in banks' holding of government securities (**Chart 3.9**). Since the increase in policy rate translates onto savings deposits relatively earlier than on assets which are repriced according to their respective contractual maturity or repricing date, the growth in interest expense was higher i.e. 126.0 percent, as the funding base (deposits plus borrowings) also grew over the year. Accordingly, the net interest income (NII) grew by 40.3 percent in CY22 (1.6 percent decline in CY21). Detailed analysis shows that change in NII was mainly driven by increase in rates while growth in volume of assets and liabilities also contributed to the growth of income and expense, respectively **(Chart 3.10A and 10B)**.

Chart 3.9: Percent share of interest income from investments and advances in total interest income



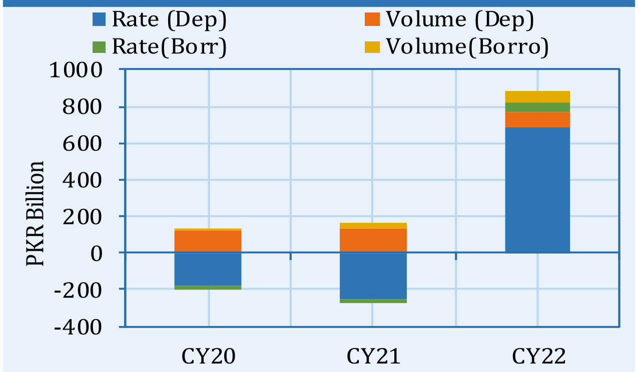
Source: SBP

Chart 3.10A: YoY change in earnings on investments and advances -Impact of Rate vs. Volume



Source: SBP

Chart 3.10B: YoY change in interest expense on deposits and borrowings- Impact of Rate vs. Volume



Source: SBP

Besides NII, Non-interest income also observed a noticeable rise (**Table 3.2**). Fee and commission incomes, which constitutes major part of banks' non-interest income, increased by 21.2 percent during CY22. However, income from dealing in FX particularly posted substantial growth as the FX market witnessed significant volatility due to demand-supply gaps. Nevertheless, banks on average remained short on their net open position (NOP), hence exposed to the risk of depreciation in PKR. The, trading gains on sale of securities remained low i.e. PKR 1.5 billion due to lackluster performance of capital market and significant increase in interest rates which adversely affected the valuations.

The non-interest expenses of the sector rebounded during CY22, growing by 23.9 percent. This reflected the impact of marked expansion in branch network as well as inflation. In CY22, banks added 769 new branches in their network; it was the largest expansion after CY15. In the backdrop of relatively higher growth in incomes vis-à-vis the rise in expenses, cost to income ratio moved down to 48.4 percent as compared to 53.5 percent in last year.

It deserves an emphasis that growth in pre-tax profit i.e. 55.8 percent was highest in previous 13 years, however, due to sharp rise in tax expenses after-tax earnings grew by 27.4 percent. The tax expenses surged significantly during CY22 – reaching 52.1 percent of pre-tax profit (41.4 percent in CY21).

Accordingly, bottom line indicators of Return on Assets (ROA-after tax) with a fractional improvement remained stable at 1.0 percent (0.96 percent in CY21) and Return on Equity (ROE-after tax) inched-up to 16.9 percent (14.0 percent in CY21).

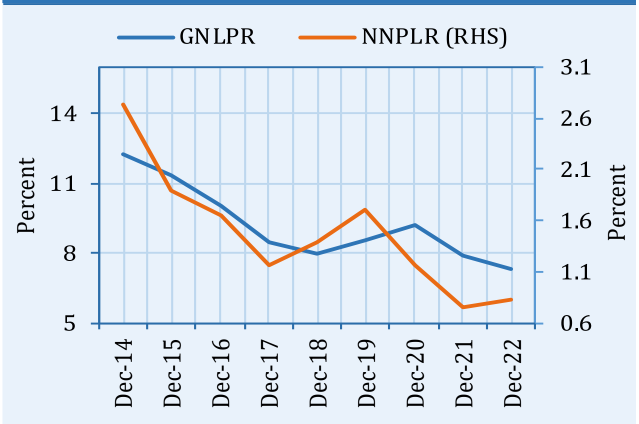
Credit Risk

Credit risk dynamics in terms of asset quality indicators largely remained encouraging, though macroeconomic dynamics deteriorated over the year

Credit risk is the primary financial risk faced by the banking sector, accounting for around 80 percent of the regulatory capital requirements of the sector.[68] The asset quality indicators showed improvement during CY22. Stock of NPLs increased by PKR 63.8 billion (7.4 percent) to PKR 924.0 billion, however relatively stronger growth in advances led to decline in gross non-performing loans ratio (GNPLR) to 7.3 percent from 7.9 percent last year (**Chart 3.11**).

As banks adequately provided for the fresh NPLs, overall provisioning coverage ratio remained almost stable at 89.5 percent and Net Non-Performing Loans Ratio (NNPLR) slightly inched-up to 0.82 percent by end Dec-22 (0.74 percent at end Dec-21) – still remaining at one of the lowest levels of last two decades. Accordingly, capital impairment ratio (net NPLs to capital) with slight deterioration to 4.6 percent (4.0 percent in last year) remained contained, indicating relatively low risk to the solvency of the banking sector from the delinquent loan portfolio.

Chart 3.11: Asset quality indicators



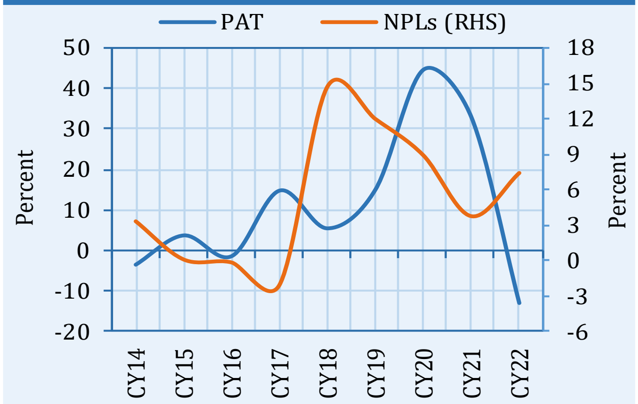
Source: SBP

68 The other two risks, market and operational risk, account for 4.9 percent and 17 percent of the capital requirements, respectively at end Dec-22.

Challenging macroeconomic conditions indicated increase in credit risk; however, borrowers generally continued to service their financial obligations smoothly ...

One of the key determinants of credit risk is the macroeconomic conditions, which significantly deteriorated over the reviewed year and affected the performance of non-financial corporations—the major users of bank credit. SBP's assessment of select firms shows that profitability of these firms declined (YoY) by 12.8 percent in CY22 as compared to 32.8 percent growth (YoY) in last year **(Chart 3.12)**. Consequently, their repayment capacity weakened as interest coverage ratio (ICR)[69] declined over the year but still remained in comfortable range (**see Chapter 7**). Nevertheless, steady financial standing of the corporate sector, which was also buttressed by last year's strong performance, enabled them to serve their financial obligations in orderly manner and delinquencies remained contained during CY22.

Chart 3.12: Corporates profitability and NPLs growth

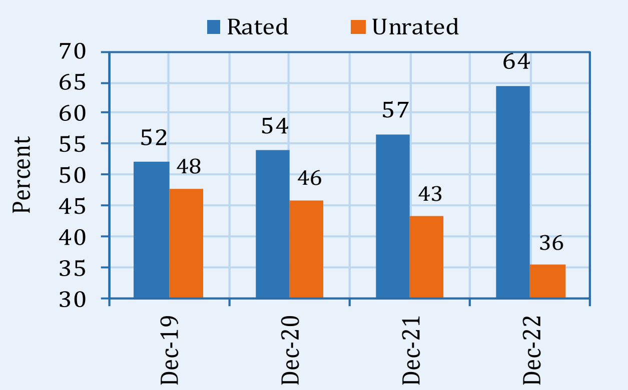


Source: SBP

Banks follow a relatively cautious and risk-averse approach in their lending strategy...

It is noteworthy that banks have been preferring the rated corporate borrowers especially the ones with better credit worthiness and established track record in business. Particularly, rated exposures observed a significant increase during CY22 (**Chart 3.13**), reflecting cautious approach of the banks in the wake of unfavorable economic conditions. This view is strengthened from disaggregated analysis showing that even within rated borrowers, banks increasingly preferred to lend to the borrowers having better credit worthiness (**Table 3.3**).

Chart 3.13: Banks' rated and unrated lending exposure



Source: SBP

Table 3.3: Percent share of banks' rated exposure against credit risk weights

	Dec-19	Dec-20	Dec-21	Dec-22
20%	41	42	41	48
50%	49	48	52	47
100%	10	10	7	6
150%	0	0	0	0

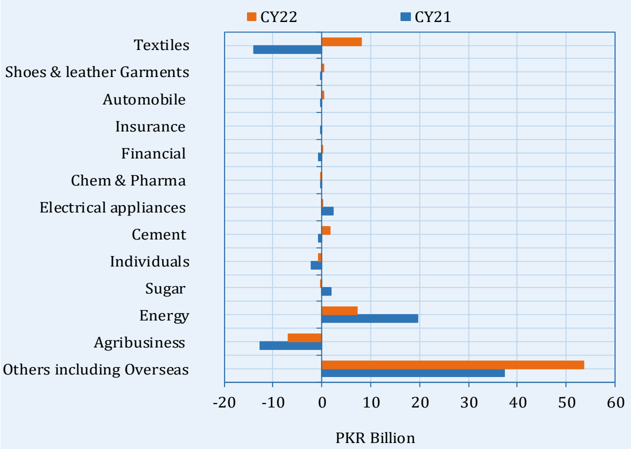
Source: SBP

NPLs flow during CY22 was mainly driven by overseas operations and textile sector ...

Detailed analysis shows that more than 85 percent of the growth in NPLs during CY22 pertained to banks' overseas branch operations[70] (**Chart 3.14**). Within overseas NPLs, deprecation in exchange rate was the key reason for increase in PKR value of foreign currency denominated NPLs.[71]

[69] ICR = EBIT/Financial Expenses.
[70] On outstanding basis, overseas NPLs represent 21.6 percent of total NPLs as of end Dec-22.
[71] When local currency depreciates against USD, overseas NPLs value in PKR terms also rises.

Chart 3.14: Sector-wise flow of NPLs



Source: SBP

In addition, textile sector – which constitutes 18 percent of total NPLs – observed a rise in NPLs during CY22 against a substantial contraction in previous year. This was due to the economic slowdown in the export markets as well as high interest rates prevailing in the domestic economy, which dented repayment capacity of a few borrowers in the textile sector. NPLs of agriculture sector continued to decline; however, decline in this year remained slightly lower than last year, as the catastrophic flooding in a large part of the country adversely impacted the income and wealth of agriculture sector's borrowers in those regions.

In the energy sector – with 9 percent share in total NPLs –the infection remained contained as last year's rise was mainly due to firm specific issues.[72]

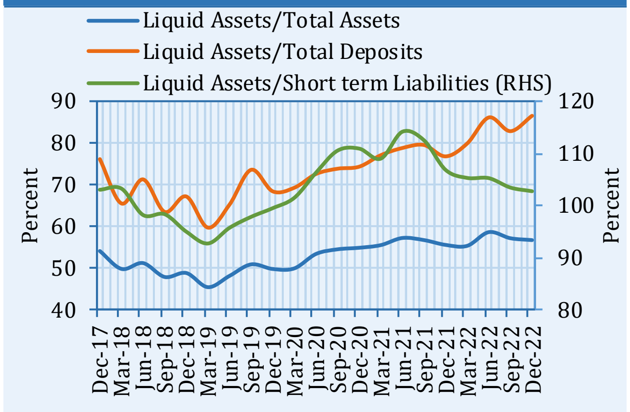
NPLs in consumer finance portfolio increased by around PKR 2 billion. The major increase was observed in personal loans category (by PKR 1.1 billion) followed by mortgage loans (by PKR 793 million) and auto NPLs (PKR 361 million). Repayment capacity of households and asset quality of consumer finance are relatively more prone to monetary tightening and deterioration in economic conditions. However, it is important to note that major part of banks' consumer finance is backed by assets i.e. auto and mortgage constituting 37.1 percent and 24.5 percent of total consumer finance portfolio, respectively. The recent increase in auto prices and low markup rates on mortgage loans as financed through SBP refinance scheme bode well for asset quality of this secured portfolio.

Liquidity Risk

Core balance sheet indicators manifested comfortable liquidity position of banks ...

Analysis reveals that due to significant increase in holding of risk-free, readily marketable government securities, liquid assets to total assets and total deposits ratios further improved in CY22 (**Chart 3.15)**. On the other hand, liquid assets to short-term liabilities ratio showed steady decline over the last two years. as banks' reliance on borrowings increased and they focused more on mobilization of current account deposits vis-à-vis remunerative deposits in the wake of rise in interest rates; however the ratio still remained at high level at end CY22.

Chart 3.15.: Trend in liquidity indicators



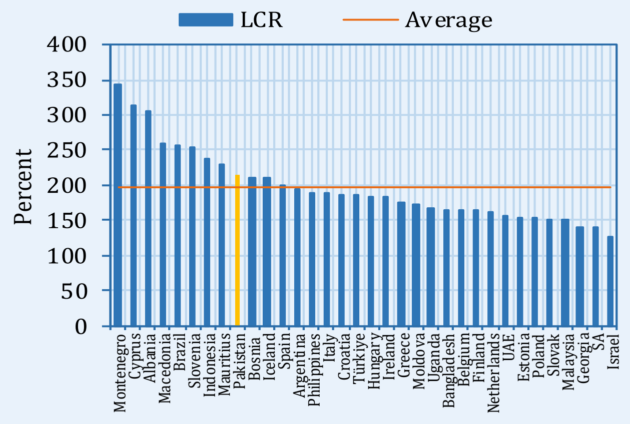
Source: SBP

Importantly, the banking sector complied with both statutory liquidity requirements and Basel liquidity standards with wide margins. Specifically, LCR and NFSR stood at 215.5 percent and 166.0 percent, respectively, at end Dec-22 — well above the required level of 100 percent. Cross country comparison indicates that high income countries on average maintained LCR at

[72] In CY21, NPLs of an oil marketing company mainly drove-up energy sector NPLs.

184.0 percent in CY22 while it was at 209.9 percent in case of EMDEs. This phenomenon shows that contrary to AEs, banks in EMDEs have less avenues to invest other than government securities. Also, relatively high economic uncertainty in developing markets made banks to prefer risk free instruments over private sector lending. **Chart 3.16** shows that Pakistan falls in top 10 of select countries in terms of LCR.

Chart 3.16: LCR of selected countries in 2022



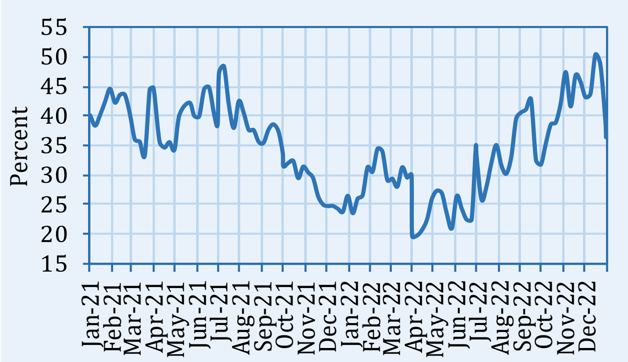
Source: IMF

It is also noteworthy that in 2019, average LCR of selected countries[73] stood at 176.0 percent but increased to 210.3 percent in 2020 revealing the rise in governments' debt levels in the wake of pandemic related fiscal measures.

However, market conditions showed significant liquidity pressures as deposit growth and interbank activity remained low vis-à-vis high credit demand, especially from the government.

In the wake of persistently higher government borrowing[74,75] from the banks (**Chart 3.17**) and noticeable private sector credit demand particularly during H1CY22, liquidity conditions in the market remained tight as growth in deposits also remained low. This was also reflected in elevated positive spread between overnight rate and policy rate that prevailed in most of the period during CY22 (see **section on Money Market in Chapter 2**). Accordingly, the volume and frequency of banks' usage of SBP's standing facility (discount window) increased during CY22.[76] Banks availed financing of around PKR 4,869.3 billion in aggregate during CY22 which is the highest for the last 12 years., The frequency of this borrowing also remained high; there were 85 days (against 53 days in CY21)on which banks availed such financing (**Chart 3.18**). Moreover, the total number of times banks accessed standing facility for funding during CY22 was 197 (highest since CY14) as compared to 117 times in CY21.

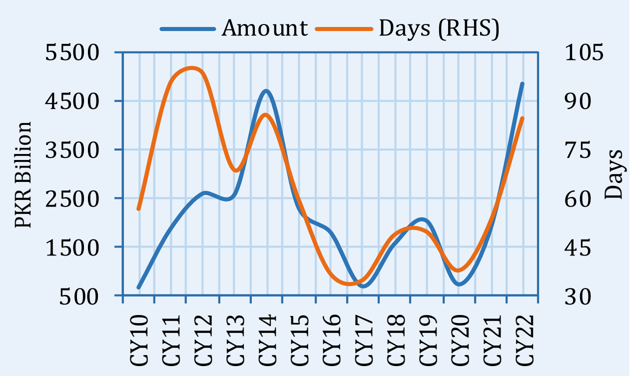
Chart 3.17: Govt budgetary borrowing from banks (YoY growth)



Source: SBP

73 12 countries including AEs and EMDEs.
74 Government borrowed PKR 3,359.5 billion in the reviewed year as compared to PKR 2,082.7 billion in CY21. On a weekly average basis, Government borrowing stocks remained at PKR 12.6 trillion during CY22 against PKR 9.5 trillion in CY21.
75 None of the bids were rejected in MTBs auctions during CY22 as compared to 17 rejections[75] in CY21.
76 At times of liquidity shortage, scheduled banks, PDs and DFIs can access SBP Reverse repo facility to borrow funds (against eligible collateral) from SBP on overnight basis to meet their liquidity requirement.

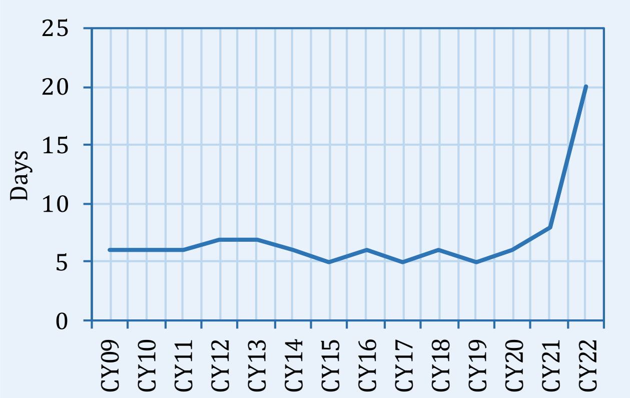
Chart 3.18: Banks' borrowings under ceiling facility and number of days



Source: SBP

In this backdrop, to keep the interest rates within the policy bound and ensure smooth functioning of inter-b the money market, SBP enhanced the frequency and quantum of OMOs' injections and also introduced longer-term OMOs (**Chart 3.19**).[77] CY22 observed PKR 85,791 billion worth of OMOs' injections—second highest during the past 13 years[78]— and the outstanding stock of SBP's lending (OMOs' injections) to banking sector increased to 13.2 percent (of total assets) at end Dec-22 from 5.6 percent a year ago.

Chart 3.19: Average OMOs injections tenor



Source: SBP

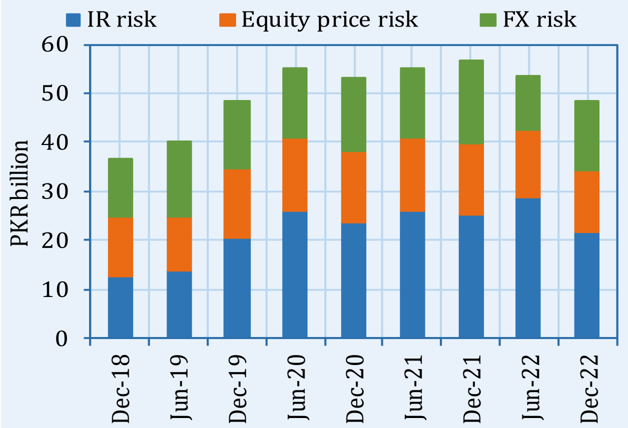
Market Risk

In terms of capital charge, market risk accounts of for only 4.9 percent of overall regulatory capital requirements of banks. This low level of capital requirements signifies contained exposure of banks in FX and equity stocks, while investment in fixed-income securities largely comprises high-quality instruments involving relatively lower capital charge for interest rate risk.

Interest rate risk has become important for banks due to sharp increase in holding of government securities and changing dynamics of funding sources ...

Interest rate risk is the leading component of banks' market risk (see **Chart 3.20**). Over the last couple of years its significance has particularly increased as policy rate changed significantly and banks' aggregate investments surpassed half of the asset base by end Dec-22,[79] while most of the banks' investment to asset ratios fall between 40 to 60 percent.

Chart 3.20: Capital charge for market risks



Source: SBP

Recent turmoil in the US banking sector highlights that repricing gaps between rate sensitive assets (RSAs) and liabilities (RSLs) and greater sensitivity of investments to interest rate changes can have implications for banks' financial standing

[77] On December 17, 2021, SBP started first lengthy OMOs injection that had maturity of 63 days. The lengthiest injection involved 77 days conducted on June 24, 2022.

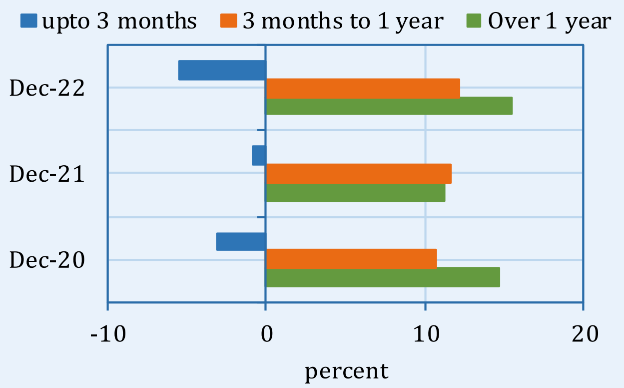
[78] In CY21, OMOs' injections amounted to PKR 104 trillion, highest in 13 years. However, average maturity in CY21 was 8 days.

[79] Investment to assets ratio rose to 51.7 percent by end Dec-22 from 48.7 percent at end Dec-21.

especially in the context of sharp rise in interest rates.

Domestic banking sector's increased reliance on borrowings towards the end of CY22 led to an expansion in gaps between RSLs and RSAs for up to 3-month maturities bucket (**Chart 3.21**). However, relatively low gaps, indicated contained sensitivity of NII to changes in interest rate.

Chart 3.21: Gap (RSA-RSL) as percent of total Assets



Source: SBP

Lower interest rate sensitivity of investments and improved capital cushions enabled the banking sector to withstand sharp increase in interest rates…

The increased proportion of short-term and floating rate instruments (i.e. MTBs and floating rate PIBs) helped in reducing the sensitivity of investments to the sharp hike in interest rate during the year under review. Accordingly, the regulatory capital charge for interest rate risk came down despite significant increase in the stock of government securities.

Due to a hefty increase in banks' exposure in government securities and rise in interest rates, overall revaluation deficit on government securities rose to PKR 235.8 billion by end Dec-22 from PKR 70.9 billion at end Dec-21 (compared to surplus of PKR 45.0 billion at end Dec-20).[80]

[80] Banks hold around 86 percent of the investment portfolio in Available for sale and Held for trading categories at end Dec-22.

Nevertheless, adequate capital cushions that were also augmented by growth in NII and earnings, which enabled the sector to withstand the impact of revaluation losses. The latest sensitivity (stress testing) results based on Dec-22 data also suggest that the banking sector in general has adequate resilience against interest rate risk (see **Table 3.4**).

Table 3.4: Stress Testing Results of the Banking System

Position based as December 2022 (Un-audited)

Shock Details			Number of Banks with CAR*			
			< 0%	0% - 8%	8% - 11.50%	> 11.5%
Pre-Shock Position			3	1	0	28
Market Shocks			< 0%	0% - 8%	8% - 11.50%	> 11.50%
IR-1	Parallel upward shift in the yield curve - increase in interest rates by 300 basis points along all the maturities.	Hypothetical	4	0	0	28
IR-2	Upward shift coupled with steepening of the yield curve by increasing the interest rates along 3m, 6m, 1y, 3y, 5y and 10y maturities equivalent to the historical maximum quarterly increase.	Historical	4	0	0	28
IR-3	Downward Shift plus flattening of the yield curve by decreasing the interest rates along 3m, 6m, 1y, 3y, 5y and 10y maturities equivalent to the historical maximum quarterly increase.	Historical	3	0	1	28
IR-4	Impact of Increase in interest rate by 100bps on investment portfolio only	Hypothetical	3	1	0	28
ER-1	Depreciation of Pak Rupee exchange rate by 30%.	Hypothetical	3	1	0	28
ER-2	Depreciation of Pak Rupee exchange rate by 15.9% equivalent to the historical quarterly highest depreciation of rupee against dollar.	Historical	3	1	0	28
ER-3	Appreciation of Pak Rupee exchange rate by 7.0% equivalent to the historical quarterly highest level of appreciation of rupee against dollar .	Historical	3	1	0	28
EQ-1	Fall in general equity prices by 41.4% equivalent to maximum decline in the index.	Historical	3	1	0	28
EQ-2	Fall in general equity prices by 50%.	Hypothetical	3	1	0	28

Source: SBP

FX risks emanated from external account pressures and uncertainties; however, banks' exposure and sensitivity to FX risk remained contained.

Exchange rate volatility peaked in April 2022 in response to weakness in the external sector of the economy, rising inflationary pressures and heightened uncertainties. The PKR depreciated by 22.0 percent in CY22 against USD (9.4 percent deprecation in CY21).

In line with conservative Foreign Exchange Exposure Limit (FEEL) prescribed by SBP, banks follow a cautious approach in managing their exposure to FX risks. Accordingly, the FX risk weighted assets decreased during CY22 (see **chart 3.20**). Furthermore, banks maintained sufficient resilience in terms of capital cushions to withstand large FX shocks, as also evident from the results of latest stress testing exercise (see **Table 3.4**).

Banks showed strong resilience against adverse movements in equity prices mainly due to limited exposure...

The domestic equity market exhibited lackluster performance on the back of tightening cycle of monetary policy and a challenging macroeconomic environment. The benchmark equity index (KSE-100 index) fell 9.4 percent over the year to 40,420 points. On seven instances, KSE-100 index fell more than 1,000 points in a day during CY22; almost all in H1CY22, when the uncertainties brought significant volatility in equity prices (for details see the **section on Equity market in Chapter 2**). However, the volatility in equity market did not pose any stability concerns for the banking sector, as the sector had both limited exposures to equity market and adequate capital cushions to withstand any shocks in equity prices. Investment in equity stocks comprised only a fraction i.e. 1.2 percent of total investments of banks. During the year under review, the net position in equity stock as percent of banks' eligible capital further declined to 6.8 percent (from 7.3 percent at end CY21), suggesting further reduction in risk exposure (**see Chart 3.20**).

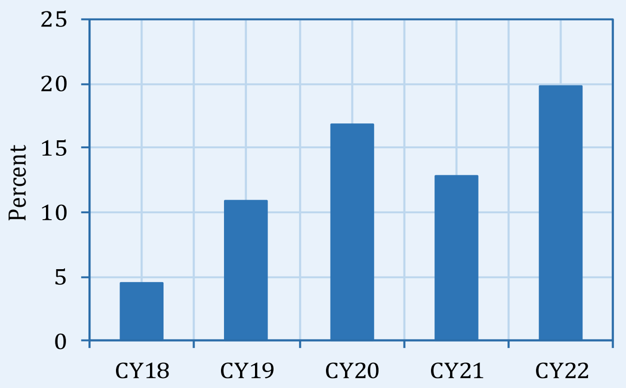
The latest sensitivity (stress testing) analysis for Dec-22 also suggests a strong resilience of banks against adverse movements in stock prices (see **Table 3.4**).

Operational Risk

Growth in capital requirement for Operational Risk rebounded with the growth in incomes along with rise in general banking frauds....

Operational Risk Weighted Assets (ORWA) that represent 17.0 percent of Total Risk Weighted Assets (TRWA) grew by 19.8 percent during CY22 compared to 12.9 percent growth in CY21 (**Chart 3.22**). Rebound in ORWA was driven by strong increase in gross income during the year.[81]

Chart 3.22: Yearly growth in ORWA



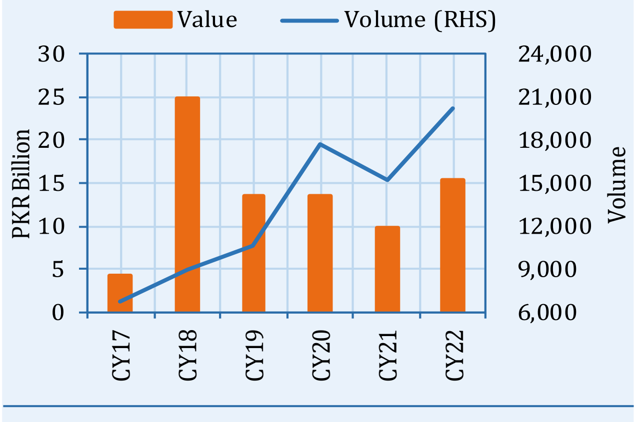
Source: SBP

However, general banking frauds (in terms of volume and value) also increased (**Chart 3.23**). Moreover, information pertaining to digital frauds reveals that such frauds trended upward particularly in the final quarter of CY22 (**Chart 3.24**). It is pertinent to mention that in the wake of increased use of technology and digitization of financial services, cyber and information technology risk has emerged as one of leading risks across the globe. In order to cope with this risk, SBP has introduced a comprehensive regulatory and supervisory framework on cyber security and technology governance. The framework gives necessary guidance and prescribes best principles and minimum standards on key risk areas; the supervisory process proactively monitors the underlying risks and takes corrective actions[82] . Moreover, SBP took a number of measures during CY22 to enhance the resilience against cybersecurity risks (see **Annex-A** on Regulatory and Supervisory Developments).

[81] Most of the banks in Pakistan use the Basic Indicators Approach (BIA) to calculate operational risk capital charge; this approach uses gross income as a proxy for estimating the ORWA.

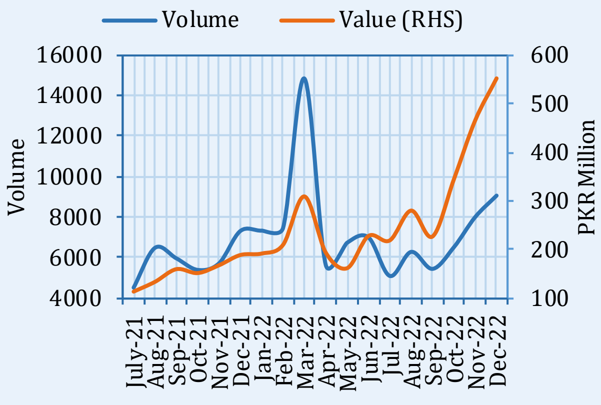
[82] Please see Box 8.1 of FSR 2021 i.e. Cyber Security – Emerging Trends, Challenges and Policy Responses.

Chart 3.23: General banking frauds



Source: SBP

Chart 3.24: Digital frauds in the banking sector



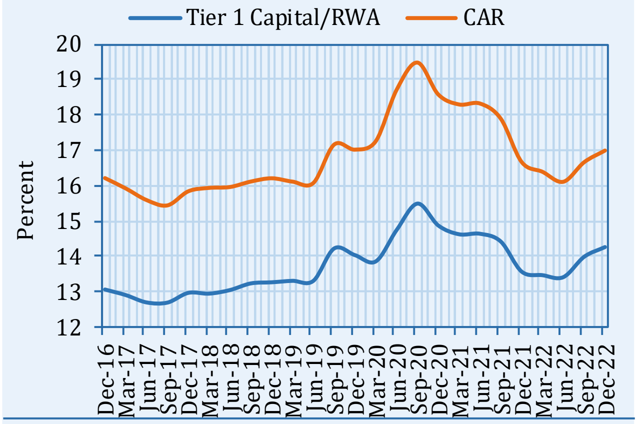
Source: SBP

Solvency

Banks' solvency remained steady on account of improvement in capital adequacy ratio, growth in earnings, and contained delinquencies …

CAR of the banking sector slightly improved to 17.0 percent by end Dec-22 from 16.7 percent at end Dec-21, as total eligible capital (**TEC**) grew by 11.2 percent in CY22 compared to 9.1 percent growth in total risk weighted assets (TRWA). It is noteworthy that CAR which was trending downward since Dec-20, began to rise again during the reviewed year (**Chart 3.25**). Moreover, the sector's Leverage Ratio remained at 4.0 percent vis-à-vis minimum standard of 3.0 percent.[83]

Chart 3.25: Tier 1 Capital and CAR



Source: SBP

Further analysis of capital reveals that Tier I capital increased by PKR 226.9 billion (compared to PKR 90.6 billion in CY21) and solely pushed-up Eligible Capital while Tier 2 capital declined during the year. The marked increase in Tier I capital was mainly driven by strong increase in retained earnings supported by profits of CY22.

Tier II capital however declined by PKR 13.5 billion (PKR 9.2 billion decline in CY21), mainly due to revaluation losses[84] on AFS securities. These losses reflect the impact of notable rise in yields on government securities and lackluster performance of the capital market in the wake of tightening of monetary policy and economic slowdown in the later part of CY22.

Within TRWA, credit risk weighted assets (CRWA) increased by 8.9 percent — down from 18.0 percent growth in CY21. The sizable deceleration was due to slowdown in lending activities of the banks in the wake of increased macroeconomic stress. Market risk weighted assets (MRWA) observed contraction of 14.4 percent against 6.5 percent increase in previous year.

[83] Leverage Ratio is a non-risk based indictor under Basel III accord. It is a ratio of Tier 1 capital to total on- and off-balance sheet exposures of a bank. Unlike CAR that applied varying risk-weights to exposures, leverage ratio takes all the exposures at face value.

[84] Unrealized losses on AFS pertaining to government securities increased to PKR 235.8 billion at end Dec-22 from PKR 70.9 billion at end Dec-21.

The overall solvency position of the banking sector remained steady as CAR was well above the minimum regulatory requirement of 11.5 percent – supported by a continuous stream of earnings while residual risk from delinquent loans was well contained as the loan infection and capital impairment ratios were at one of the lowest levels of last two decades. Though the prevailing stressed macroeconomic conditions may have implications for asset quality and operating performance of the sector, the results of stress test exercise show that the sector holds adequate resilience to withstand macroeconomic shocks over the projected period of next three years (see **Chapter 4: Resilience of Banking Sector against Adverse Conditions**).

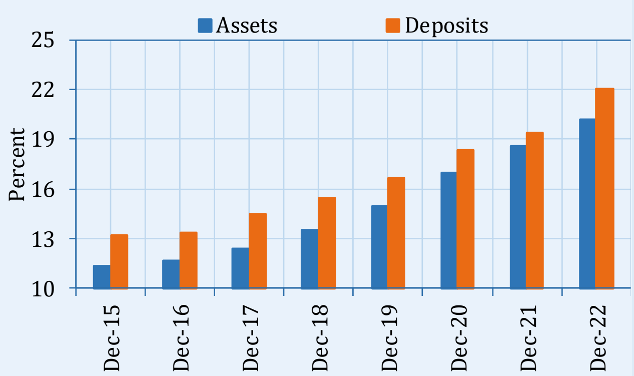
Box 3.1: Islamic Banking

Islamic banking industry continued its impressive pace in CY22. The expansion in the asset base was primarily investment driven as investment avenues widened. Deposit mobilization was robust while reliance on borrowings remained sizable. Asset quality indicators showed healthy trajectory. Also, IBIs' earnings rebounded strongly supporting ROA and ROE. The solvency position further strengthened during CY22 manifesting enhanced loss absorption capacity of IBIs.

Islamic banking industry continued to grow with impressive pace and its market share in the banking sector increased further…

In CY22, Islamic Banking Institutions (**IBIs**)[85] observed 29.6 percent expansion in the asset base — compared to average growth of 24.8 percent in previous five years. The prominence of Islamic banking is steadily growing. This is reflected by a noticeable share of IBIs' in overall banking sector's assets and deposits. In total assets and deposits, IBIs' share stood at 20.2 percent and 22.0 percent, respectively at the end of CY22 (**Chart 3.1.1**).

Chart 3.1.1: IBIs' share in banking industry's assets and deposits



Source: SBP

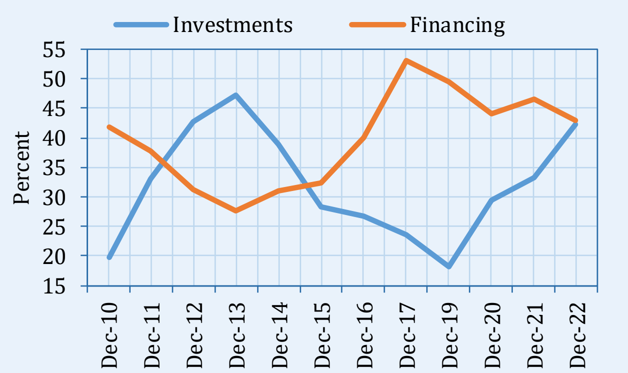
This year growth was primarily driven by investments in domestic sovereign Sukuk, which contributed 72.6 percent of the overall growth in asset base, followed by financing. The role of investments in supporting balance sheet expansion that had been on the rise got further traction during the reviewed year, and their share in asset of IBIs rose to 42.2 percent (from 33.2 percent at the end of CY21) (**Chart 3.1.2).** However, the financing to deposits ratio of IBIs still remained high at 60.3 percent — notably higher than the ADR of 47.6 percent in their conventional counterparts (**Table 3.1.1**).

Table 3.1.1: Performance of Islamic Banking Institutions

	IBIs			Conventional Banks		
	CY20	CY21	CY22	CY20	CY21	CY22
			PKR Billion			
Total Assets	4,269	5,577	7,229	20,854	24,482	28,567
Investments (net)	1,261	1,852	3,051	10,673	12,703	15,349
Financing (net)	1,881	2,597	3,113	6,411	7,523	8,705
Deposits	3,389	4,211	5,161	15,130	17,509	18,301
			YoY Percent Change			
Total Assets	30.0	30.6	29.6	14.2	17.4	16.7
Investments (net)	111.3	46.8	64.8	33.5	19.0	20.8
Financing (net)	15.9	38.1	19.9	0.5	17.4	15.7
Deposits	27.8	24.2	22.6	16.1	15.7	4.5
			Share in Total Assets (Percent)			
Investments (net)	29.5	33.2	42.2	51.2	51.9	53.7
Financing (net)	44.1	46.6	43.1	30.7	30.7	30.5
FDR/ADR (Percent)*	55.5	61.7	60.3	42.4	43.0	47.6

* FDR= Financing to Deposits and ADR=Advances to Deposits
Source: SBP

Chart 3.1.2: Percent share of investments and financing in total assets

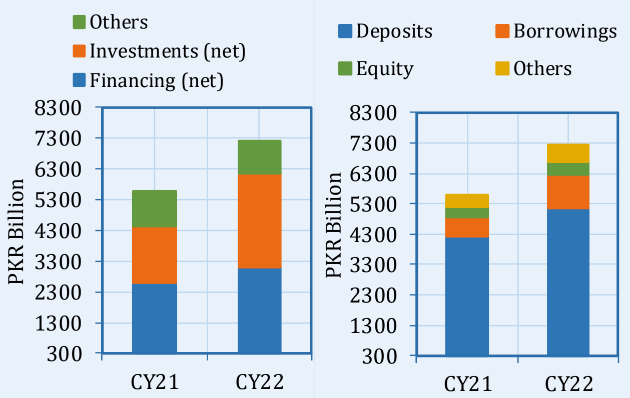


Source: SBP

[85] IBIs include both full-fledged Islamic banks as well as Islamic banking branches of conventional banks.

On the funding side, growth in deposits (of PKR 950.1 billion) provided the major support to this year's growth in asset base while reliance on financing from financial institutions also remained high and their share in asset base increased to 15.4 percent from 12.0 percent in last year (**Chart 3.1.3).** Unlike conventional banks, deposits of IBIs witnessed only a slight deceleration during the year under review i.e., growing at the rate of 22.6 percent as compared to 24.2 percent in CY21.

Chart 3.1.3: Assets and liabilities composition of the IBIs (stocks)

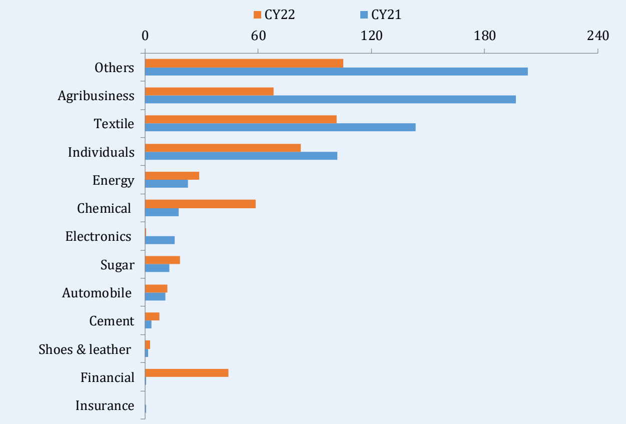


Source: SBP

Financing observed notable deceleration during CY22…

The overall financing (public and private) growth remained subdued (19.9 percent growth in CY22 vs. 37.8 percent in CY21).[86] The slowdown was primarily driven by agribusiness, textiles, and individuals (**Chart 3.1.4**). While buildup of stress in macroeconomic environment and tightening of macro-financial conditions explain lower financing availed by the textile sector and individuals, government's preference to avail relatively higher commodity financing from conventional banks explains pronounced slowdown in IBIs' financing to agribusinesses.

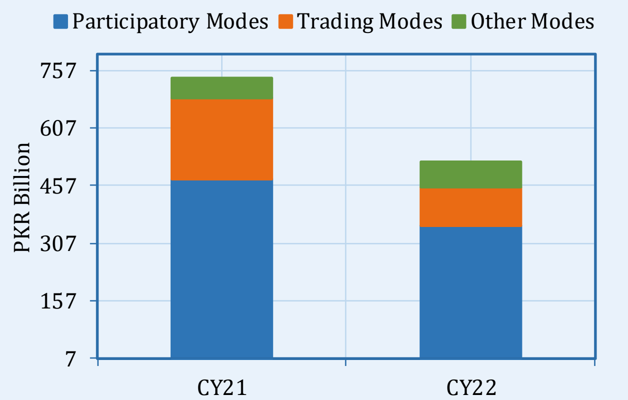
Chart 3.1.4.: Sector-wise overall financing flows



Source: SBP

In terms of modes of financing, participatory mode dominated. During CY22, PKR 354.0 billion and PKR 100.3 billion were availed under participatory and trading modes, respectively (**Chart 3.1.5**).

Chart 3.1.5: Financing flows under different modes



Source: SBP

Greater availability of Shariah compliant instruments further beefed up investments that improved liquidity profile of IBIs…

IBIs' investments increased by PKR 1,199.3 billion (64.8 percent rise) during CY22 as compared to PKR 590.8 billion in CY21. This overall growh in investments was almost entirely (i.e. 99 percent) contributed by growth in the holding of sovereign Sukuk and their share in total investments increased to 82.0 percent. The important development during the reviewed year was

[86] Overall financing flows amounted to PKR 530.1 billion as compared to PKR 730.8 billion in previous year.

provision of additional avenues for investments to the Islamic banking industry, as government added new assets in Government Ijara Sukuk and issued additional Sukuk of PKR 805 billion, showing stepped-up efforts of the policy makers to diversify the government's sources of funding and address liquidity management challenges of IBIs.[87]

Accordingly, liquidity indicators of IBIs posted notable improvement e.g., share of liquid assets in total assets rose to 41.6 percent in CY22 from 33.2 percent in CY21.

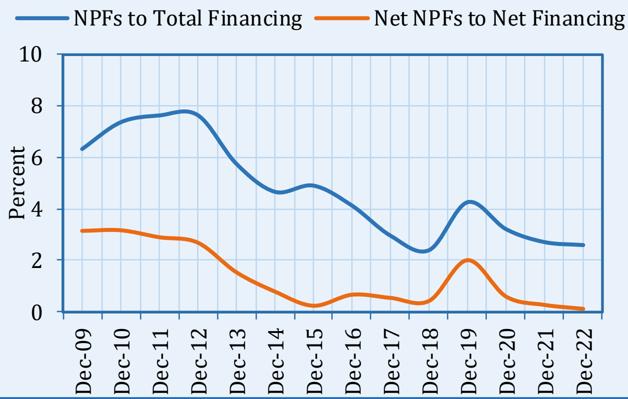
Pace of deposit mobilization remained strong ...

IBIs managed to grow deposits by 22.6 percent (PKR 950.1 billion) during CY22, which was slightly lower than last year's growth of 24.2 percent. The analysis indicates that major growth in deposits was contributed by customers' deposits, wherein fixed and savings deposits explain around 60 percent rise in total increase in customers' deposits. It is noteworthy that this growth in deposits was contrary to the trend of overall banking sector, which observed notable deceleration in customers' desposits . While the rebound in customers' deposits was augmented by the conversion of a bank's entire business to Shairah-compliant mode[88], IBIs' incentive to mobilize deposits remained intact due to their relatively better financing to deposit ratio. Moreover, increase in returns in the wake of tightening monetary policy and higher demand for financing particulalrly from government also augmented the deposits' growth.

Asset quality indicators keep manifesting contained delinquencies...

Along with robust pace of expansion, IBIs have been supporting banking sector's soundness by containing their credit risk. For instance, Non-Performing Financing (**NPF**) to total financing ratio —despite 14.9 percent rise in NPF —further declined to 2.6 percent (2.7 percent in CY21). Also, net NPFs to net financing ratio further improved due to improvement in provisioning coverage of NPFs (**Chart 3.1.6) –** provisioning to NPFs ratio increased to 96.1 percent (90.8 percent in CY21). This was the highest in previous 13 years as the flow of revenues enabled the sector to provide for loan losses.

Chart 3.1.6: Asset quality indicators



Source: SBP

IBIs' earnings increased remarkably...

After tax earnings of IBIs surged by 82.2 percent during the reviewed year (4.5 percent growth in CY21). Profitability was mainly supported by net mark-up income, which rose by 75.9 percent driven by high profit rate environment. As a result of a strong rebound in earnings during the year under review, after tax ROA and ROE increased to 1.7 percent (1.3 percent in CY21) and 30.5 percent (21.4 percent in CY21), respectively.

Soundness of IBIs strengthened during CY22...

CAR improved to 17.8 percent in CY22 from 16.0 percent a year earlier due to stronger increase in capital vis-à-vis RWA. Encouragingly, its level was well above the minimum local requirement and global standard of 10.5 percent and 11.5 percent, respectively. This ratio mainly comprised better-quality Tier-1 capital, with Tier-1 to RWAs ratio of

[87] DMMD Circular Letter No. 01 and 05 of 2022.
[88] Faysal Bank Ltd. has been following a conversion plan to become full-fledged bank. Its process completed by the end of CY22, and w.e.f. January 01, 2023, it became a full-fledged Islamic bank.

15.0 percent, showing marked improvement over the year from 12.8 percent at end CY21.

Further analysis indicates that moderation in TRWA and strong rise in Total Eligible Capital (TEC) helped improve solvency position.

TEC grew by 26.9 percent (or PKR 51 billion) and this entire growth was contributed by Tier I capital which increased by PKR 52 billion while Tier II capital witnessed slight contraction.

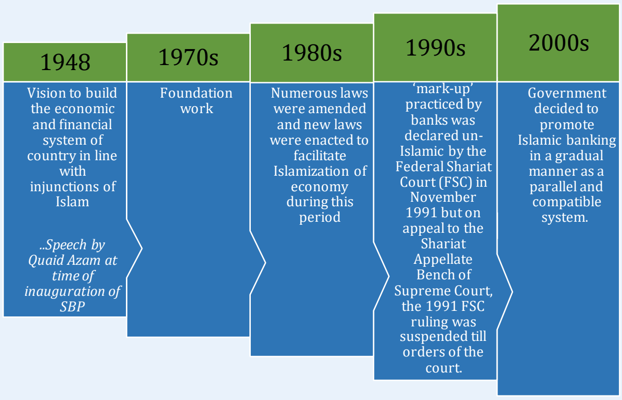
The analysis of RWA indicates that deceleration in TRWA (14.2 percent in CY22 vs. 18.8 percent in CY21) was mainly driven by Credit Risk Weighted Assets (CRWA). CRWA and MRWA both decelerated to 9.9 percent (17.7 percent rise in CY21) and 7.4 percent (21.0 percent in CY21), respectively. Nonetheless, in line with growth in gross income, Operational Risk Weighted Assets (ORWA) surged by 34.9 percent in CY22 (23.7 percent in CY21).

Box 3.2: SBP's Strategy to transform the banking sector to Islamic mode – key challenges and opportunities

Introduction

The honorable Federal Shariat Court (FSC) in its judgement on Riba[89] dated April 28, 2022 has declared that Riba is prohibited in all its forms and manifestations, and directed to convert Pakistan into an interest-free economy by end of CY27. The verdict has directed to delete the word "interest" from all relevant clauses under different laws and to amend all laws with respect to the judgement.[90]

Chart 3.2.1: A retrospective view of Islamic Banking in Pakistan



Source: SBP

A. Islamic Banking in Pakistan – Historical Perspective and Current Status

Efforts for economy wide elimination of Riba started in late 1970s and several noteworthy and practical steps were taken in 1980s, in which, SBP played a key role.

However, the financing procedure based on 'mark-up' practiced by banks was ruled as un-Islamic by the FSC in November 1991; and the Supreme Court's Shariat Appellate Bench delivered its judgment in December 1999 with the directions that laws involving interest would cease to have effect by June 30, 2001 and later the date was extended to June 30, 2002. However, on a review petition filed by a bank, Shariat Bench of the Supreme Court set aside the previous verdicts on Riba in June 2002 and remanded back the case to Federal Shariat Court for hearing afresh.

The extant paradigm of Islamic banking in the country can be traced in the government's efforts of early 2000s to promote Islamic banking through a market driven approach. It aims at developing Islamic banking as a parallel and compatible system so as to ensure a smooth transition (**Chart 3.2.1**).[91]

Under this approach, Islamic banking has witnessed robust growth over the years to attain one-fifth market share, which reflects both growing confidence of the public and buildup of capacity among banking professionals and market infrastructure to support the sustainable growth of this faith-based discipline of banking. SBP has been playing a leading role in creating a conducive environment for the development and promotion of Islamic banking industry including the institution of enabling regulatory and supervisory framework and capacity development of the industry.

Pakistan is the world's fifth most populated country with world's second-largest Muslim population. The country is estimated to have a population of around 232 million of which 96.5 percent is Muslim, indicating the needs of Shariah-compliant banking services.

Current Status of Islamic Banking

By end Dec-22, the network of Islamic banking reached 22 Islamic Banking Institutions (IBIs), including 5 full-fledged Islamic Banks (IBs) and 17 conventional banks having dedicated Islamic

[89] Shariat Petition No.30-L of 1991 & All other 81 connected matters relating to Riba/Interest.

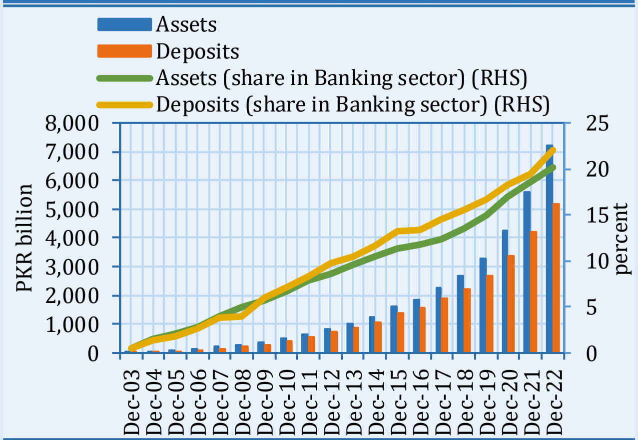
[90] The verdict comprises 166 clauses; first 151 clauses provide the background of the case and the conceptual underpinning for the principle of Riba or interest and its implications for Pakistan's economy, and the following clauses direct the government to implement a Riba free economy within 5 years.

[91] SBP - History of Islamic Banking in Pakistan.

Banking Branches (IBBs).[92] The branch network of Islamic banking industry crossed the 4,000 mark to reach 4,396 (spread across 129 districts of the country) by end Dec-22 up from 3,956 in Dec-21.

Islamic banking industry's asset base and deposits grew at a phenomenal rate since its inception. For instance, average annual growth in Islamic banking industry's asset base since 2010 has been 25.9 percent compared to 14.1 percent growth in overall banking sector. Accordingly, Islamic banking has become an important component of country's banking sector, acquiring a market share of 20.2 percent in assets and 22.0 percent in deposits of the overall banking industry by end Dec-22 (**Chart 3.2.2**).

Chart 3.2.2: Trend in Assets and Deposits of IBIs



Source: SBP

SBP's efforts to promote Islamic banking…

To facilitate conventional banks desirous of converting their operations as per Islamic principles, SBP has provided detailed guidance and regulatory standards from time to time.

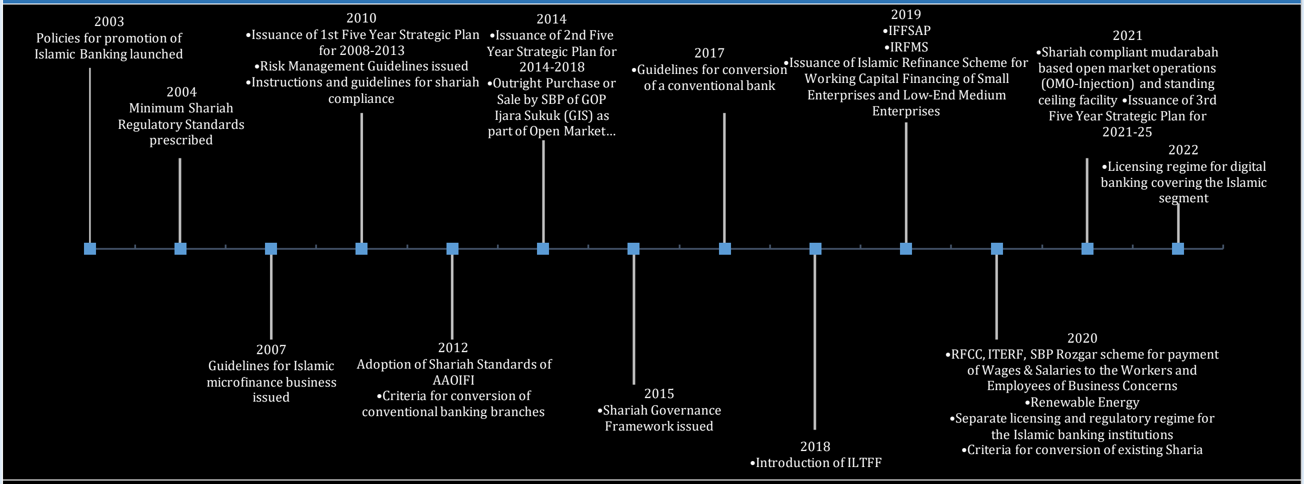
Besides, SBP also provides hand-holding and necessary facilitation for orderly conversion on an institutional or transactional level. One of the leading examples is Faysal Bank Limited's complete transformation from conventional to Islamic mode.[93] The transformation of Faysal Bank is not only the first-of-its-kind transaction in Pakistan's banking history where conventional business was transformed to Shariah-compliant mode, but also is one of the largest conversions of a conventional bank into Islamic mode on a global level. Such examples can provide both guidance and motivation to other market players in transforming their businesses to Shariah mode. It is encouraging to note that conversion of conventional banking branches into Islamic banking branches is also picking up pace; banks have already converted around 600 conventional banking branches into Islamic during the last five years (2018-22).

Some of the major steps taken by SBP for promotion and development of Islamic banking are presented in Chart 3.2.3 below.

[92] With the transition of Faysal Bank Limited, the number of full-fledged Islamic banks have increased to six with effect from January 01, 2023.

[93] Faysal Bank Ltd. has been granted license to operate as a full-fledged Islamic bank starting from January, 2023.

Chart 3.2.3. SBP initiatives for promotion of Islamic Banking



Note: ILTFF=Islamic Long Term Financing Facility, IFFSAP=Islamic Financing Facility for Storage of Agricultural Produce (IFFSAP), IRFMS=Islamic Refinance Facility for Modernization of SMEs, IRFCC=Islamic Refinance Facility for Combating COVID-19, ITERF=Islamic Temporary Economic Refinance Facility
Source: SBP

In recognition of its efforts, SBP has been voted as the best central bank in promoting Islamic finance six times (2015, 2017,2018, 2020, 2021 and 2022) by a poll conducted by Islamic Finance News (IFN), REDmoney Group Malaysia. Moreover, Global Islamic Finance Awards (GIFA) has also awarded SBP as "Best Central Bank of the Year 2020".

B. Challenges in implementation of FSC's judgement

Eliminating Riba is a comprehensive task that requires concerted efforts from various stakeholders and involves a number of challenges and milestones. While new challenges may prop up from time to time as the country moves ahead with complete conversion of banking and economic system, some of the leading policy issues that will particularly need attention and concerted efforts are as follows:

- **Implementation of monetary policy and public policy objective of price stability**

  Price stability is a key public policy consideration of every state to ensure sustainable economic growth. For this purpose, SBP has been specifically entrusted with the statutory objective to maintain price stability. To this end, SBP uses policy rate and several other monetary policy management tools, like other central banks. For fuller conversion of economic and financial system to Shariah-compliant mode, there will be a need to develop and implement Shariah-compliant tools for the operation of monetary policy. Like other central banks, SBP uses short-term policy rate to affect aggregate demand in the economy to achieve the goal of price stability; the rate is managed through various monetary policy management tools e.g., OMOs and the interest rate corridor.

  While the SBP has already instituted Shariah-compliant OMOs injection and Shariah compliant standing facility, there is a need to build a Shariah-consistent mechanism to mop up surplus liquidity as well as a suitable alternate to policy rate for anchoring the price expectations. However, development and implementation of suitable mechanism will, inter alia, require adequate capacity on the part of market participants as well as sufficiently large size of the Islamic banking sector and Shariah compliant securities and assets.

- **Conversion of existing government debt to Shariah-compliant instruments**

  The government has been heavily relying on bank credit to finance its budgetary needs, and investments in government securities constitute around 48 percent of banking sector's assets base at end Dec-22. Major part of this investment comprises conventional MTBs and PIBs, which form 87.3 percent of banks' total holding of government securities of PKR 16.8 trillion, while Sukuk constitute only 12.7 percent.

  Investments in government securities have recorded an average growth of 28.9 percent during last 3 years (CY20 to CY22). Much of this growth has emanated from new issuance of conventional government securities. In this backdrop, there will be a need to have sufficient pool of government assets, with clear titles of ownership and potential to generate revenues, to help in issuances of Shariah-compliant government securities (to replace the stock of PIBs/ TBs). However, the dearth of eligible assets can create a challenge in transforming the existing conventional stock of domestic public debt into Shariah-compliant instruments.

- Concerning external debt, IMF, World Bank, ADB and other international agencies recognize the importance of Islamic finance and have taken initiatives to promote Islamic Finance. However, it is important to note that while Shariah-compliant financing is more practical in case of project financing, availing financing for balance of payment support may require special efforts to develop Shariah-compliant products and arrangements.

- For conversion of existing foreign currency debt and raising fresh financing from international market, FSC judgement aptly highlights different type of Sukuk that can be issued in international capital markets by the government to raise funding. However, due to prevailing macroeconomic stresses, the credit rating of the country is low and the global financial conditions are also unfavorable.[94] These circumstances can have implications for the efforts to convert existing external debt or raise fresh financing.

- **Liquidity Management**

  Significant efforts have been made across the globe to develop liquidity management instruments and money markets for Islamic banking and financial institutions. However, the limited range of liquidity management tools and dearth of high quality liquid assets including sovereign Sukuk remains an issue especially in developing Islamic banking markets.

  In Pakistan, the money market has gradually come a long way in terms of its outreach and availability of Shariah-compliant instruments. SBP has developed various tools to manage liquidity with both conventional and Islamic banks. As a lender of last resort to the banking sector, SBP has instituted Shariah compliant standing facility for Islamic banks to help them manage their liquidity needs by seeking financing from the central bank, though the facility to deposit excess liquidity with SBP is still under development.

  Moreover, emergency liquidity assistance (i.e. LOLR facility) has also been developed to assist Islamic banks in exceptional

[94] Pakistan's ratings are Caa3 (Moody's), CCC+ (Fitch) and CCC+ (S&P) date accessed: April 10, 2023.

circumstances when they are faced with extreme liquidity shortages. However, money market and its Shariah-compliant instruments may still need significant development and maturity over time. These policy considerations will particularly become important when the entire banking sector is transformed to Shariah-compliant mode.

- **Reformation of laws, judicial system and legacy contracts**
  Banking business involves close interaction with various business and commercial laws. Accordingly, clause 161 of the FSC judgment identifies the need for amendments in fifteen (15) different laws[95] to bring them into conformity with the injunctions of Islam by December 31, 2022. The Federal Shariat Court suggests some of these amendments in the Banking Companies Ordinance 1962. It is worth mentioning that under common law framework as practiced in Pakistan, the legal underpinning of business and financial transactions are covered in multiple sources including various case laws as well as statutory laws. Review and amendments in the relevant laws will require coordinated efforts of all the relevant stakeholders.

C. Opportunities in implementing FSC's judgement

The financial deepening and outreach of financial sector is limited in Pakistan. However, the strong growth in Islamic banking since early 2000s indicates that it can play a significant role in improving financial depth and inclusion in the country.

According to a recent study conducted by SBP in collaboration with Department for International Development (DFID), religious beliefs contribute 23 percent to demand for Islamic banking and the overall demand for Islamic banking is higher amongst household (retail) than the businesses.[96] Though Islamic banking has recorded a consistent increase, its assets to GDP ratio stood at around 8 percent, which is quite low when compared to some other jurisdictions (**Chart 3.2.4**). In the context of this low level of deepening, the exceptional growth posted by Islamic banking industry over the last two decades indicates that there is huge potential for growth. Further, there is also great potential for financing in agriculture, SMEs, housing, and microfinance sectors. These sectors hold promising prospects to generate lucrative returns, productivity and employment, provided necessary financing is available. These sectors largely remained under served due to multiple reasons, including the religious considerations of proprietors and entrepreneurs.

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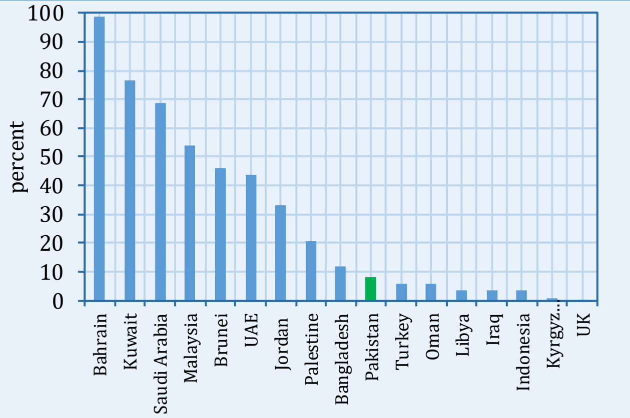
[95] The laws identified by the FSC judgement are:
1. Interest Act, 1839 held completely repugnant to the Injunctions of Islam.
2. Section 10 of The Government Saving Banks Act, 1873.
3. Section 78, 80, 114, 117 (c) of the Negotiable Instruments Act, 1881.
4. Sections 28, 32, 33, and 34, of the Land Acquisition Act, 1894.
5. Code of Civil Procedure, 1908. Section 2(12), 34, 34-A, 34 B, 35 (3) and 144 (1); and various statutory Orders and Rules;
6. Provision 59(2) (e) The Cooperative Society Act ,1925
7. Rule 141(h), 22,41 along with appendices 1 to 4 of the Cooperative Societies Rules, 1972.
8. The West Pakistan Money-Lenders Ordinance, 1960.
9. The West Pakistan Money-Lenders Rules, 1965.
10. The Sindh Money-Lenders Ordinance, 1960.
11. The N.W.F.P Money-Lenders Ordinance, 1960.
12. Rule 17 of The Agricultural Development Bank Rules, 1961.
13. Section 25 (2) (a) of The Banking Companies Ordinance, 1962.
14. Rule 9 of The Banking Companies Rules, 1963.
15. Rules 9 of The Banks (Nationalization) Payment of Compensation Rules, 1974.

[96] Knowledge, Attitude and Practices of Islamic Banking in Pakistan, SBP.

Chart 3.2.4: Islamic Banking Assets to GDP in selected countries (Q22022)



Data source: IFSB and Haver Analytics

With adequate business strategies and focus, Islamic banks can explore the potential of underserved segments and create value for both their investors as well as the society by meeting the banking needs of these high potential segments. Thus, the uphill task of converting to Islamic banking brings with it not only challenges but also enormous opportunities.

Capable managerial skills and trained human resource will be a key element in exploring the fuller potential of Islamic banking. Besides, innovation and efficient use of technology can play a crucial role in reaching out to the whole spectrum of the population and addressing their financial services' needs through convenient and cost effective products.

Besides furthering financial inclusion, balanced economic growth, and growth potential for market players, Islamic banking can also contribute to the key policy objectives of price and financial stability. The very nature of Islamic banking business – that it is based on partnership in ethical business activities and real assets – makes it less prone to financial fragilities and price bubbles.[97]

The current landscape of Islamic banking seems to be in a mature stage from the perspective of knowledge and skills in Islamic banking, footprint and regulatory and supervisory guidelines and frameworks. The already enabling environment presents vast opportunities for conventional banks to explore the huge potential of Islamic banking.

D. Strategy to implement FSC's Judgment

Over last two decades, SBP has provided enabling legal and regulatory framework along with necessary market infrastructure that has facilitated in increasing the share of Islamic banking to around one –fifth of the banking sector. While these arrangements and experience gained in enhancing the Islamic banking foot print will continue to facilitate growth in Islamic banking, a time bound full-scale conversion requires coordinated and sustained efforts from multiple stakeholders. In this context, SBP has initiated a consultation process with the relevant stakeholders with a view to ensure fast track adoption of Islamic banking in line with the judgement of the FSC.

The government has demonstrated a firm commitment towards the promotion of Islamic banking and finance in the country and has constituted a high-level steering committee for providing strategic guidance in the implementation of FSC's judgment on Riba under the patronage of the Minister for Finance and Revenue. The committee is being chaired by Governor-SBP, and comprises of key stakeholders such as Ministry of Finance, SBP, SECP, Institute of Chartered Accountant of Pakistan (ICAP), Shariah scholars, bankers, legal experts and representatives of the business community.

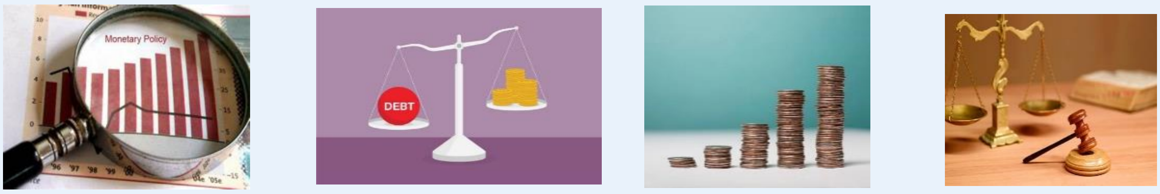
[97] Empirical literature has documented that Islamic banks are usually financially stronger than the conventional banks. Source: Cihak, Martin and Cihak, Martin and Hesse, Heiko (2008). Islamic Banks and Financial Stability: An Empirical Analysis. *IMF Working Paper No. 08/16.* For details, please visit https://www.imf.org/external/pubs/ft/wp/2008/wp0816.pdf.

In order to steer the process of conversion of conventional banking into Islamic banking, SBP has constituted a high-level committee for transformation of conventional banking into Islamic. The committee comprises of senior officials of SBP and Presidents/ CEOs of some commercial banks. Additionally, SBP has formed different working groups, in diverse areas like legal reforms; regulatory & supervisory reforms; awareness creation & capacity building; review of conversion plans of banks; fast track adoption of international standards; and coordination with government and other stakeholders. The working groups would provide policy and operational recommendations in their respective areas to ensure transformation of conventional banking system into Shariah compliant banking. These working groups have representation from all relevant stakeholders like SBP, banking industry, Shariah scholars, etc.

Under the guidance of Steering Committee and in consultation with the relevant stakeholders, SBP is working on the development of a transformation plan for conversion of conventional banking system into Islamic one. In addition, a working group comprising of officials from the ministry of finance, SBP, SECP, representatives from the Islamic banking industry, and centers of excellence in Islamic finance education is working to explore and recommend the possibility of using a variety of underlying assets for issuance of assets-light Sukuk structures of different tenors by the government, so as to convert public debt to Shariah-compliant mode and ensure regular availability of Sukuk in the market.[98]

Keeping in view the extensiveness of the transformation task, SBP has also modified its institutional arrangement for better prioritization of objectives and enhanced focus. For this purpose, a dedicated Islamic Finance Group has been established in SBP which comprises of two departments: Islamic Finance Policy Department and Islamic Finance Development Department. Islamic Finance Policy Department will especially work on policy formulation for the transformation of conventional banking into Islamic banking and ensure its timely implementation while Islamic Finance Development Department will focus on the promotion of Islamic finance through awareness and capacity building initiatives, market research, and international collaboration. With further strengthening of SBP's institutional capacity and concerted efforts of various stakeholders, the drive for conversion to a Riba-free financial system and economy is expected to gain traction going forward and hopefully meet the timeline as advised by the FSC.

Chart 3.2.5: Challenges in implementing FSC judgement



Implementation of Monetary policy and public policy objective of price stability

Conversion of existing government debt to Shariah-compliant instruments

Liquidity Management

Reformation of laws, judicial system and legacy contracts

Source: SBP

[98] Sukuk market development positively affects the financial stability of Islamic banks. Source: Ledhem, Mohammed Ayoub, (2022). The financial stability of Islamic banks and Sukuk market development: Is the effect complementary or competitive? *Borsa Istanbul Review*, Volume 22, Supplement 1, 2022.

Chapter 4: Resilience of the Banking Sector under Adverse Conditions

The stress scenario used in this assessment is not a forecast of macroeconomic and financial conditions. It is a hypothetical, coherent, tail-risk setting designed specifically to assess the resilience of the banking sector to hypothesized deterioration in macroeconomic conditions. Under the baseline scenario (business as usual), the solvency level of the banking sector remains stable and well above the domestic regulatory benchmark over the three-year horizon. Under a more adverse scenario as well, the banking sector is expected to comfortably maintain its solvency against a downturn induced by adverse macroeconomic conditions associated with severe pressures in the global commodity prices, recurrence of extreme weather conditions such as floods and droughts and any disruption due to assumed political instability. In terms of size, the large systemically important banks, in particular, carry sufficiently higher capital buffers and are expected to sustain the impact of the shocks over the assessment period. Similarly, the medium and small sized banks are also expected to remain resilient to the shocks. Under the baseline, the credit, however, is projected to grow at a slower pace, which may turn negative in assumed stress conditions. Nonetheless, the banking sector, with sufficient capital buffers, is expected to continue catering to the credit needs of the economy. That said, the exact severity, duration, and path of the current and assumed adverse global commodity market conditions and geopolitical tensions remain highly uncertain. As a result, the stress-test results are also subject to significant uncertainty. The SBP, on its part, continues to closely watch the evolving situation and remains ready to take whatever actions necessary to safeguard financial stability.

4.1 Background

The feedback effects between the real and financial sectors have been most prominently highlighted by the global financial crisis (GFC) of 2007-08. Since then, supervisors have enhanced the level of oversight of the financial sector and taken regulatory measures to strengthen the resilience of the sector to withstand potential shocks. In this connection, stress-testing (ST) exercises are also being extensively used by supervisory authorities as well as multilateral agencies to assess the resilience of the banking sector to some hypothetical adverse yet plausible event(s). The results of these stress tests depict the *projected* behavior of macro-financial variables and health of the banking sector under different *assumed* scenarios.

The SBP has been conducting this exercise internally on a quarterly basis since 2005. For external stakeholders, detailed stress-testing results and assessments are being published annually in the FSRs since 2007-08 and quarterly results are shared via Quarterly Compendium: Statistics of the Banking System.

The ST framework for banking sector in Pakistan is being continuously revamped and strengthened. SBP issued a comprehensive set of ST guidelines for conventional banks, Islamic banks, Islamic branches of conventional banks, DFIs and MFBs in 2020 to regularly assess their resilience and incorporate the same in their risk management processes.[99] Importantly, the sample of domestic systemically important banks (D-SIBs) are now required to conduct macro-stress testing (MST) under various scenarios to gauge their level of resilience against adverse shocks.

[99] FSD Circular No. 01 of 2020.

4.2 Overview of Scenario Design

The current year's ST exercise consists of assessment of resilience of the sector under *baseline* and *hypothetical stressed* scenario*.* Both scenarios are built on the basis of key internal and external risk factors including extreme weather conditions, evolving political environment, uncertainty associated with completion of the IMF program's review, soaring debt levels, potentially intensified geopolitical tensions leading to higher commodity prices and worsening of global financial conditions. The two scenarios differ in terms of assumptions regarding materialization and intensity of the assumed risk factors.

The *baseline scenario* traces the path of macro-financial variables under the current dynamics of the global and domestic economic conditions.[100] On the other hand, the hypothetical *stressed* scenario assumes recession owing to extreme weather conditions (causing floods and/or droughts), domestic political uncertainty and risks to external financing amid tightened global financial conditions.[101]

Against the backdrop of economic challenges, the impact of both scenarios for the domestic macro-financial stability is investigated over a projection horizon of three years, viz., Q1CY23 to Q4CY25.

The implications of assumed changes in macro-financial indicators such as output, inflation, interest rate, external sector, including current account balance and exchange rate, on the health of the banking sector have been captured in regulatory capital (RC) and risk weighted assets (RWAs). Specifically, the RC and RWAs are impacted by the credit and market risks. The assumed economic downturn can negatively influence the income levels of firms and households, affecting their debt servicing capacity and amplifying the credit risk for the banks. This in turn may put adverse pressures on the profitability of banks and negatively affect their solvency. On the other hand, market risk affects the valuation of assets and liabilities held on banks' balance sheets owing to fluctuations in the interest rate, exchange rate and equity prices.

The feedback effects of weakened solvency of banks could spill over to the real economy, as the banks may be reluctant to provide credit for even potentially profitable investment opportunities, thus amplifying the economic downturn.

In both the scenarios, a similar methodology has been employed to evaluate the resilience of the banking sector and capture the inter-linkages among various sectors of the macro economy. Given the interaction between real and financial sectors, a suite of vector autoregressive (VAR) and Bayesian VAR models has been employed.[102,103]

In addition to the system level assessment, the cross-sectional heterogeneity has also been captured for the different segments of the

[100] For a detailed discussion of key issues relevant to global and domestic economic environment, please see Chapter 01.

[101] Usually three types of shocks are considered in stress testing based on the length of the shock events i.e. V-shaped, L-shaped and U-shaped. The shapes are envisaged in terms of recovery. V-shaped assumes quick recovery; L-shape assumes protracted downturn while U-shaped assumes recovery towards the end of projection horizon. Under this terminology, stressed scenario is assumed V-shaped. However, owing to high level of severity and uncertainty around both scenarios, delayed recovery is assumed making an asymmetrical V with stretched second leg. Although, the recovery in baseline scenario is quicker compared with the stressed scenario.

[102] For details, please see *'Box 4.1 Technical Details*' of Chapter 4: Resilience of the Banking Sector, Financial Stability Review 2016, SBP. In all we use 12 variants of VAR models, and an equal number of Bayesian VAR models. The models contain different combinations of macro-financial variables. Moreover, for calculation of relevant financial soundness indicators, we have assumed a dynamic balance sheet.

[103] One fifth of the authorities use VARs for macro stress testing. Bank for International Settlements (BIS) 2017. *Supervisory and Bank Stress Testing: A Range of Practices*, (December).

banking industry in terms of size, i.e., small, medium, and large banks.

4.3 The Baseline

The domestic economy has been facing quite a challenging macroeconomic environment owing to floods in CY22, pressure on external sector, the after-effects of Covid-19 and political uncertainty. The confluence and cumulative impact of these shocks has culminated into historic levels of currency depreciation and inflationary pressure. Against this challenging backdrop, the baseline, *Scenario 0 (S0)*, is built around four main assumptions regarding global and domestic risk factors.

With general elections assumed to be held in CY23, political uncertainty is likely to abate…

First, *S0* assumes that the general elections will be held in CY23. The scenario assumes that elections will culminate into establishment of a stable government, boosting investor confidence to unlock multilateral and bilateral external financing inflows. On the other hand, ongoing high inflation and the corresponding monetary policy response is likely to moderate growth momentum. On a positive side though, the successful implementation of reforms is likely to keep twin deficits and public debt under check while boosting recovery in the medium term.

Public debt is expected to remain under check owing to fiscal consolidation measures and stable exchange rate…

Second, the scenario assumes that owing to implementation of fiscal consolidation measures, fiscal deficits will be manageable. On the other hand, resumption of multilateral flows is likely to boost confidence, reduce risk premium and stabilize the exchange rate. Based on these two assumptions, the public debt, which increased by 23.4 percent in CY22, is likely to remain in check.

Climate risk events of moderate severity are likely to disrupt real economy…

Third, *S0* assumes that climate risk related events of moderate scale may lead to economic losses during the projection horizon. Historically, Pakistan has been the victim of a series of extreme weather-related catastrophes such as, severe droughts (1998-2002), massive flooding (2010, 2020, and 2022), extreme heat waves (2015), heavy rainfalls (2020, 2022), land sliding and glacier melting. These episodes have resulted in significant supply shocks and output losses.

Even though Pakistan does not rank as a top emitter of greenhouse gases, it is ranked as one of the most affected countries by climate changes in terms of human and output losses.[104] Recently, the total estimated damages attributable to torrential rains of CY22 are estimated at USD 14.9 billion, equivalent to 5.8 percent of GDP.[105] The most affected sectors include agriculture, housing, food, livestock, fisheries, transport and communications.

Global commodity prices are expected to decline gradually…

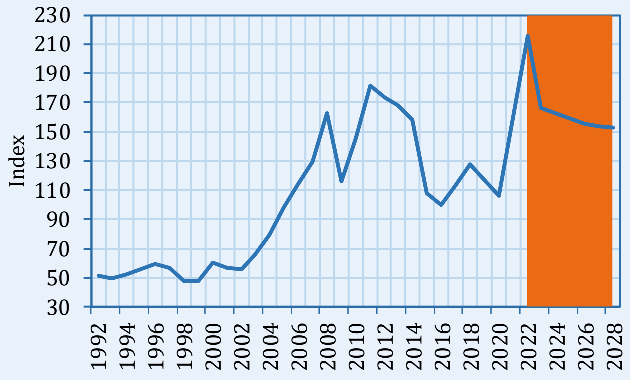
Finally, post-pandemic recovery and Russia's invasion of Ukraine led to a sharp rebound in commodity prices in general and oil prices in particular over the last two years **(Chart 4.1)**. However, as various countries keep evading sanctions on Russian oil amid slowing global demand and phasing out supply disruptions, a gradual declining trend in oil prices is being observed since mid CY22. Oil futures and consensus forecast indicate that this declining trend is likely to continue over our projection

[104] The Germanwatch has included Pakistan in the category of countries that are recurrently affected by the catastrophes and has ranked Pakistan at 8th position in long term climate risk index. *Global Climate Risk Index (CRI) 2021. Germanwatch.*

[105] Pakistan Floods 2022: Post-Disaster Needs Assessment (October 2022).

horizon of next three years.[106] Accordingly, assuming absence of new major shocks to global oil supply, the *S0* assumes that oil prices may gradually decline to USD 74 per barrel by the end of CY25.

Chart 4.1: Commodity prices Index



Source: IMF WEO April 2023

Economic growth is assumed to moderate rapidly in FY23 and then gradually recover over the projected horizon

In this perspective, *S0* assumes GDP to grow by around 0.5 percent in FY23. However, growth is expected to rise to 2.9 percent in FY24 and 3.7 percent in FY25 on account of the assumed favorable global and domestic economic conditions (**Chart 4.2**). Further, YoY average CPI inflation may stay at elevated levels of 28.1 and 17.6 during FY23 and FY24, respectively, before moderating to 7.7 percent during FY25 (**Chart 4.3**).

4.4 The Hypothetical Stressed Scenario

The stressed scenario, *Scenario 1 (S1)*, is built around the following assumptions regarding global and domestic risk factors.

A rise in domestic political uncertainty may lead to adverse economic impacts…

The stressed scenario hypothesizes uncertainty surrounding upcoming general elections, leading to a potential rise in domestic political uncertainty, which may negatively affect domestic economy in several ways. First, it may lead to a compromise on reforms agenda required to ensure economic sustainability and to unlock multilateral financing flows. Second, in the absence of multilateral flows, access to external financing may be difficult and costlier with added risk premium. These two factors are likely to involve an increase in government's domestic financing needs that may push debt levels up and constrain fiscal space. Third, external sector stress may translate into pressures on the exchange rate, leading to a further surge in inflation. Finally, an overall rise in political as well as economic uncertainty may lead to deterioration of investor and consumer confidence, thereby deteriorating aggregate demand and employment.

Climate change related catastrophic events of high severity pose a major risk to macroeconomy…

Considering the recurring history of climate risk related events, as discussed in the previous section, *S1* assumes that climate events of extreme severity may lead to economic losses during the projection horizon. A major climate related event is assumed in the first year of projections horizon – e.g., a recurrence of rains and floods like the previous year; although we avoid framing assumptions regarding exact nature and timing owing to hard-to-predict nature of such events.

A rise in geopolitical tensions may lead to resurgence in global commodity prices …

While *S0* assumes moderation in global commodity prices, *S1* assumes the converse.

[106] U.S Energy Information Administration (EIA), Brent oil prices may average USD 85 per barrel in CY23 and may fall to USD 81 per barrel in CY24. World Economic Outlook by IMF (April 2023) also forecasts downward trend in oil prices.

The intensification of ongoing Russia-Ukraine war and the resulting fresh sanctions on Russia — the second largest crude oil exporter[107] — may lead to severe supply disruptions in the oil market. Resultantly, *S1* assumes that the oil prices may rise to USD 95 per barrel by the end of CY23, before gradually declining to USD 84 per barrel by end of CY25. Additionally, considering the major share of Russia and Ukraine in global wheat supply, the disruptions in these countries may result in a rise in global wheat prices, which, in conjunction with the assumed weather-related shocks, may also affect the domestic economy negatively.

Tightening of global financial conditions may lead to pressure on external sector…

Although headline inflation indicators have started to recede in advanced economics, the indicators of core inflation are yet to plateau. Current situation and inflation outlook, therefore, imply that interest rates in AEs may increase further and may persist at elevated levels for longer than anticipated.[108] Further, the assumed rise in geopolitical tensions may also push up global food and energy prices, necessitating even further monetary tightening as central banks use monetary policy levers to anchor inflation expectations. *S1*, thus, assumes that financial conditions will continue to tighten in the near term, making external financing for emerging markets and developing economies (EMDEs), including Pakistan, more expensive and difficult. This may also build pressure on EMDEs' domestic currencies and may result in flight to safety.[109]

The hypothetical adverse scenario, therefore, assumes recurrence of extreme weather conditions during initial years of projection horizon alongside international commodity price pressures in the wake of intensifying geopolitical tensions. Consequently, the real economy is assumed to contract in FY23 and FY24, before resuming a moderate growth trajectory in FY25 (**Chart 4.2**). Under *S1*, the supply shocks are assumed to push inflation up in FY23 which is expected to moderate in the last two years of projection horizon but will remain at elevated levels (**Chart 4.3**).

4.5 Stress Testing Results: System Level

a) Impact on Credit Riskiness

The results of the ST exercise indicate that the gross non-performing loans ratio (GNPLR),[110] under *S0* is likely to remain on the higher side over the three-year projection horizon, given slow recovery in domestic demand, disrupted supply conditions due to climate related adverse events and fiscal consolidation (**Chart 4.4**). The lending portfolio of the banking sector may decline initially in response to a sharp deceleration of GDP from 6.1 percent in FY22 to 0.29 percent in FY23. However, the credit growth becomes positive in the second half of projection horizon. On average, advances grow by around 3.1 percent over the projection period. This reflects the risk averse behavior of the sector under assumed baseline conditions.

In line with the lagged impact of macroeconomic shocks realized in recent past and assumption of gradual recovery, the GNPLR attains the peak of 14.4 percent and settles at 13.4 percent by the end of projection period CY25.[111] This projection is 607 basis points

[107] Oil Market and Russian Supply, *International Energy Agency*.
[108] International Monetary Fund. (2023). World Economic Outlook: A Rocky Recovery. *Washington, April*. For details, please visit https://www.imf.org/en/Publications/WEO/Issues/2023/04/11/world-economic-outlook-april-2023
[109] World Bank. (2023). Global Monthly Newsletter. *Washington, March*. For details, please visit https://thedocs.worldbank.org/en/doc/abf6fab46b08d9edfcf1187e6a3e108e-0350012023/related/Global-Monthly-Mar23.pdf
[110] GNPLR = Gross Non-Performing Loans ÷ Gross Advances
[111] Please note that the results reflect an assumption of no policy interventions.

(bps) above the recorded level of 7.3 percent as of end CY22. The relatively higher GNPLR is partly explained by the reduced credit supply (gross loans) in response to the contraction of economic growth.

The asset quality indicator, under hypothetical stressed scenario, on the other hand, follows an upward trajectory because of the assumed sharp slowdown amid elevated global commodity prices and domestic supply shocks, which may also significantly affect the credit supply of the banking system. Under *S1*, the lending portfolio is projected to contract, on average, by 2.6 percent over the projection period. The delinquency rate peaks at around 20.1 percent and remains elevated until the end of projection horizon (**Chart 4.4**).

Chart 4.2: Real GDP Growth

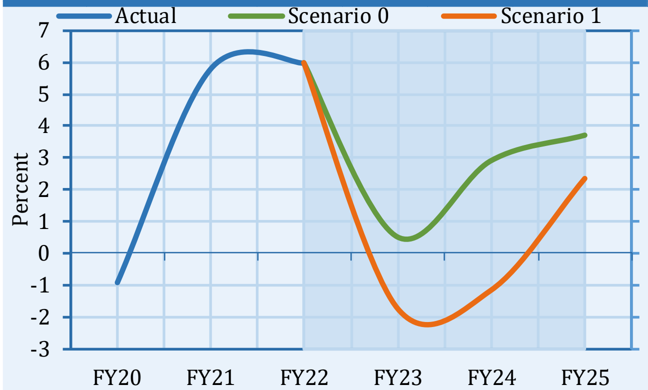


Chart 4.3: Inflation

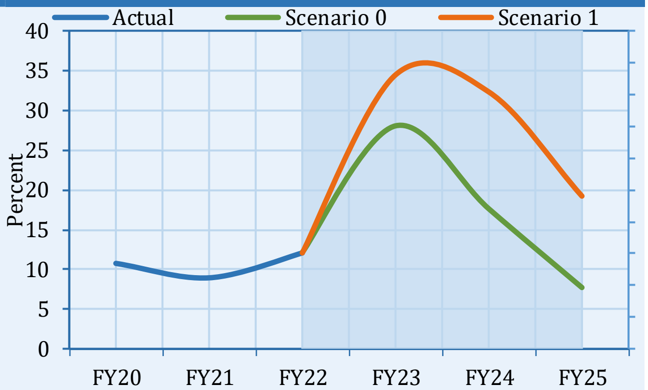


Chart 4.4: System-Level Gross Non-performing Loans Ratio

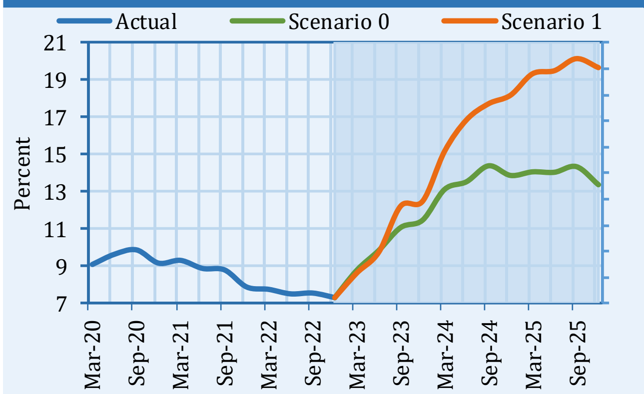
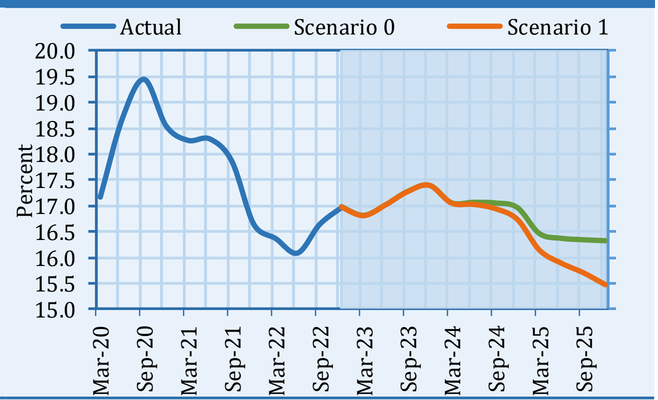


Chart 4.5: System-Level Capital Adequacy Ratio



Source: SBP Calculations

b) Impact on Solvency

The impact on solvency is measured via the Capital Adequacy Ratio (CAR) of the banking system.[112] The CAR of banking system initially increases to 17.4 percent in both scenarios and then declines. The key reason behind an initial rise in CAR is the decline in risk-weighted assets, which in turn may be attributed to an increase in credit risk during uncertain macroeconomic environment and consequent cautious lending behavior of banks. Further, a consistent rise in interest rates and portfolio re-balancing of banks to risk-free investments may bring profits to banks' income statement and

[112] CAR = Eligible Capital ÷ Risk Weighted Assets

may lead to a rise in capital (**Chart 4.5**) without increasing risk-weighted assets.

In the second half of projection horizon, however, losses due to anticipated credit risk may outweigh the impact of declining RWAs as proportionate decline in capital exceeds the decline in RWA, leading to a fall in CAR. Under the baseline, the CAR of the banking system shrinks by 66 bps by the end of CY25 from the prevailing level of 17 percent. However, in stress scenario, the CAR remains 151 bps lower than the current level and 85 bps below the baseline projection.

Positively though, under both the scenarios, the banking industry maintains its CAR above the local minimum regulatory requirement of 11.5 percent and global benchmark of 10.5 percent during the entire period of projection horizon.

The resilience of the banking sector, despite the substantial level of assumed slowdown in real economy, can be justified based on following facts. First, the banking sector is already maintaining higher capital buffers – a hefty 548 bps above the required regulatory benchmark of 11.5 percent. Second, the release of 100 bps capital conservation buffer during COVID-19 has not been reversed yet, which gives banks additional liquidity. Third, favorable overall repricing gaps amidst assumed policy rate movements provide further cushion during times of stress. Finally, the sector's historical behavior has been to re-balance asset portfolio from riskier private sector loans to risk-free treasury investments. Moreover, the banks in general follow a conservative lending strategy and prefer to lend to borrowers with better credit worthiness as well as capacity to withstand macroeconomic shocks.

4.6 Stress Testing Results – Cross Sectional Dynamics of Banking Segments

In line with the system-level credit risk analysis, infection ratios of banking segments (small, medium and large sized banks)[113] have also been projected separately. This aspect of the banking industry is included to assess how cross-sectional heterogeneity affects the resilience of banks against various macroeconomic risks.

For GNPLR, system-level projections of NPLs and gross advances are distributed proportionately based on the contribution of each segment to the aggregate loan portfolio of the banking system as of December 2022. Similarly, capital is also distributed proportionately to compute segment level CARs.

(a) Large Banks

The large banks segment - comprising 70.7 percent of the banking sector's assets – under *S0* witnesses an increase of 516 bps in GNPLR by end-CY25 from its current level of 6.2 percent. Under *S1*, however, the infection ratio rises by 733 bps by the end of projection horizon. The CAR decreases by 68 bps in the baseline scenario and falls by 157 bps in the stressed scenario from prevailing level of 17.7 percent over the projection horizon (**Chart 4.6**). The CAR remains 548 bps higher than the local benchmark in *S0* while staying 459 bps above the minimum requirement under *S1*.

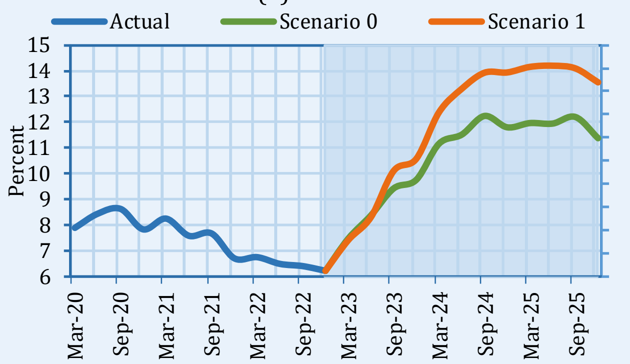
The large banks are generally well-placed to withstand stress over the simulation horizon (**Chart 4.6 (b)**). Higher capital buffers available with larger banks are the likely factor behind this resilience. Incidentally, these banks generally have relatively lower costs of funds due to their wider outreach giving them a

[113] The categorization has been done based on balance sheet footing. The banks with assets above 70th percentile of the entire banking sector are termed as 'Large' while below 30th percentile are categorized as 'Small'. The banks falling in between these two thresholds are categorized as 'Medium' sized banks.

competitive advantage to maintain a loan portfolio of relatively better rated obligors. More importantly, the systemically important banks are also likely to remain well-capitalized and resilient to the shocks assumed in stressed scenario.

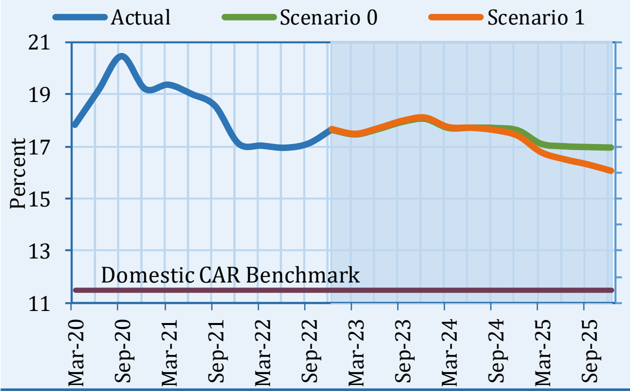
Chart 4.6: Large Banks

(a) GNPLR



Source: SBP Calculations

(b) CAR



Source: SBP Calculations

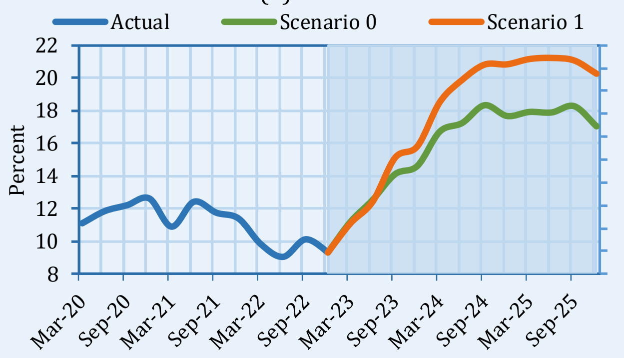
(b) Medium-sized Banks

By the end of the projection period, the GNPLR of medium-sized banks (having market share 24.5 percent) increases by 774 bps and 1,098 bps in *S0* and *S1,* respectively, from existing 9.3 percent. The CAR, correspondingly, attains 58 bps and 133 bps lower level compared with the prevailing reading of 15.0 percent, under *S0* and *S1*, respectively. The medium-sized banks are, therefore, also expected to remain compliant with the regulatory CAR standards, even under the stressed scenario (**Chart 4.7**).

Their level of CAR remains 295 bps and 219 bps percentage points above the minimum regulatory requirement (11.5 percent) in *S0* and *S1*, respectively (**Chart 4.7 (b)**). Although their delinquency ratios are higher and pre-shock capital buffers are lower than the large and small banks segments, however, medium-sized banks segment also carries sufficient capital buffers and can withstand assumed shocks under stressed scenario.

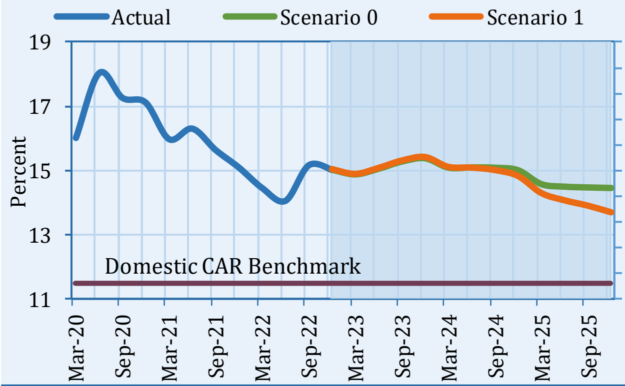
Chart 4.7: Medium-sized Banks

(a) GNPLR



Source: SBP Calculations

(b) CAR



Source: SBP Calculations

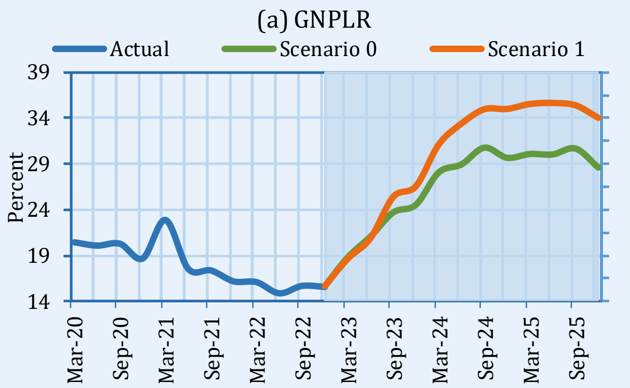
(c) Small Banks

Small banks – contributing 4.8 percent of the banking sector's asset base – are also found to be resilient against both baseline and stressed scenarios. From its existing level of 15.6 percent, the loan delinquency rate of small banks increases by 1,296 bps in *S0*, whereas it rises by 1,839 bps under *S1*, by the end of three-year horizon (**Chart 4.8 (a)**).

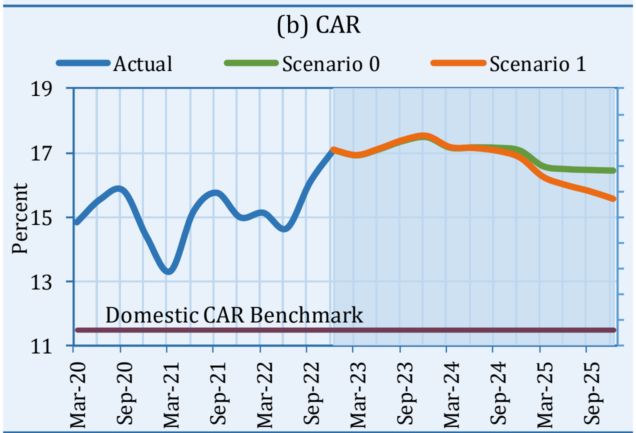
In terms of solvency, the CAR of small banks falls by 66 bps and 152 bps under *S0* and *S1* from the prevailing level of 17.1 percent (**Chart**

4.8 (a)). The CAR, however, remains 494 bps higher than the local benchmark in *S0* while staying 408 bps above the minimum requirement under *S1*. Over the period, this segment has strengthened its resilience by substantially building the capital adequacy levels.

Chart 4.8: Small Banks



Source: SBP Calculations



Source: SBP Calculations

Overall, under the baseline scenario, although the delinquency ratio rises, the solvency of the banking sector portrays an encouraging picture with capital adequacy staying well above the domestic regulatory benchmark. Under the hypothetical stress scenario as well, the banking sector is expected to withstand a severe slowdown induced by adverse global and domestic macroeconomic conditions, including the global commodity market pressures. In terms of size, all the segments of the sector (small, medium, and large) can withstand the stressful conditions as well. Reassuringly, the large size banks whose stability has particular significance for economy and financial system, carry higher capital buffers and are thus able to sustain the impact of hypothesized shocks for the projection period of three years. Also, the other two segments of banks meet the solvency criteria during the projection horizon. Furthermore, if history is any guide, the domestic banking sector has generally performed quite reasonably during severe downturns, such as the external sector crises in 2008 and COVID-19 pandemic. This is clearly visible in the results of the stressed scenario (*S1*), as the sector remains well capitalized and resilient.

That said, the exact severity, duration, and path of the current and assumed global commodity market upheaval due to adverse geopolitical tensions, commodity price shocks and climate related risks remain highly uncertain. As a result, the stress-test results are also subject to a significant uncertainty. The SBP, on its part, continues to closely watch the evolving situation and remains ready to take necessary actions for safeguarding the financial stability so that the sector continues the provision of financial services, especially the credit needs of the economy. The banks are also expected to assess the unfolding economic dynamics, review, and align their business models, and commensurately buttress capital buffers to mitigate potential impacts of any adverse credit and market risk shocks.

Box 4.1: Climate Risk assessment

Introduction

Financial market participants and policy makers are becoming increasingly concerned about the potential risks to economic activity, corporate performance and asset values emanating from climate change. Such concerns have motivated central banks and regulatory authorities around the world to understand and assess the financial risks of climate change, and integrate climate risk considerations into their existing financial stability and prudential supervisory activities.

Stress Tests are a core forward looking tool used by the central banks and prudential authorities to test the resilience of financial sector to adverse economic conditions and emerging risks. However, applying the existing toolkits to the analysis of climate risk requires efforts in two dimensions, i.e., design of scenarios that describe the realization pathways of climate risk and quantitative modelling of channels through which these risks lead to adverse economic outcomes that can affect banks and the stability of financial systems.

Nature of Climate related risks

Climate change affects the financial system through two channels i.e. 'Transition Risk' and 'Physical Risk'. Transition risks arise in the financial system as it adapts to a shift to low-carbon economy and changes in climate policy, technology and consumer/ investor preferences. Such changes, if unanticipated, can cause sudden revaluation of assets and reassessment of projected earnings, both in carbon-intensive sectors and in sectors connected to them through supply chains. This abrupt asset repricing could have large implications for a wide range of financial institutions that have significant exposures to these sectors, with potential consequences for financial stability. Physical risks, on the other hand, affect the economic activity and asset valuation through physical manifestation of climate change, such as rising sea levels, floods, droughts, wildfires, fall in crop and labor productivity due to rise in temperature.

Although physical and transition risks can potentially interact, they operate at different time horizons and differ substantially in terms of their implications for overall economic activity as well as the sectoral distribution of any effects. In the early stages of the transition, these risks can move together, as increasing physical damages cause authorities to implement increasingly forceful regulatory responses to ensure transition to low carbon. Over a longer time, and to the extent that regulatory interventions are effective in reducing carbon emissions and slowing the process of climate change, long-run physical risks might decline as a result of the realization of transition risks. Climate risk scenarios, therefore, need to consider a range of possible joint evolutions of both physical and transition risks.

Following paragraphs discuss the existing international practices in terms of their risk coverage, scenario design, horizon considerations, modelling approaches, assumptions on balance sheet and data used to estimate the climate change impacts for financial institutions.

- **Risk Coverage**

Recent studies by Kruger (2020)[114] and Stroebel and Wurgler (2021)[115] find that among investment professionals, finance academics, regulators and policy makers, transitional risks

[114] Krueger, P., & Sautner, Z., & Starks, L. T. (2020). The importance of climate risks for institutional investors. *The Review of Financial Studies, 33(3), 1067-1111.*

[115] Stroebel, J., & Wurgler, J. (2021). What do you think about climate finance? *Journal of Financial Economics, 142(2), 487-498.*

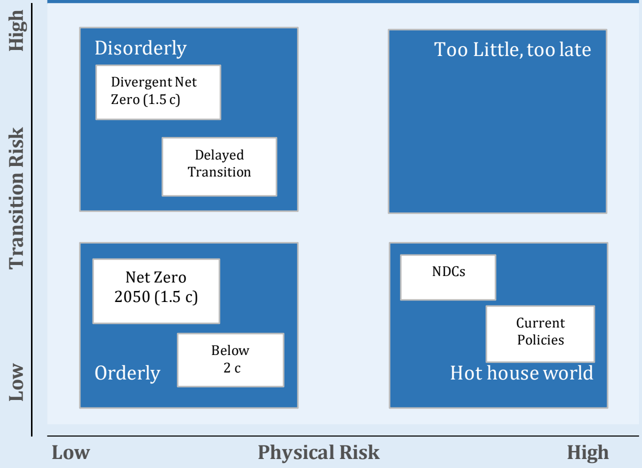
are somewhat more important today than physical risks. Physical risk, although important, are thought to become important over long-term horizons. The implied relative importance of different risks from these studies is consistent with findings from a joint review of the practice of climate scenario analyses by the Financial Stability Board and Network of Central Banks and Supervisors for Greening the Financial System (NGFS) (2022).[116] The study suggested that almost 90 percent of the central banks' exercises explored the implications of transition risk, while about 67 percent analyzed the effects of physical risks.

- **Overview of scenarios**

NGFS has played a leading role in the development of a set of climate risk scenarios to serve as a common starting point for different regulators (NGFS 2020, 2021). In June 2021, the NGFS published the second version of its scenarios, which describes six scenarios across three categories: Orderly Transition (Net Zero 2050, below 2°C), Disorderly Transition (Divergent Net Zero, Delayed Transition), and Hot House World (Nationally Determined Contributions or NDCs, Current Policies)[117] **(Chart 4.1.1)**.

In terms of transition risk, the carbon prices or taxes have been identified as a key catalyst driving the transition. In terms of physical risk, majority of the exercises conducted by authorities explored acute physical risk, such as the impact of floods and droughts, prioritizing them based on potential extent of materialization (FSB-NGFS 2022).

Chart 4.1.1: NGFS Scenario Framework



- **Projection Horizon**

The horizon for the exercises depends upon the nature of climate related risks considered. Shorter horizons are often adopted for exercises featuring acute physical risks or transition risks arising from policy changes. On the other hand, longer scenario horizons are more suited for assessing longer term physical risks, or medium-term structural shifts arising from a climate transition.

- **Modelling Approaches**

In terms of models applied, European Central Bank (ECB), France, Germany, Italy, Singapore and Japan used macroeconomic variables from NiGEM model, as these variables were part of NGFS scenario.[118] Authorities that did not use the NGFS scenarios, used alternative macroeconomic models, including in-house models.[119] Some exercises did not employ a macroeconomic model in their stress testing exercise because the scenarios chosen did not require a macroeconomic overlay.[120]

[116] Financial Stability Board and Network for Greening the Financial System. (2022). Climate Scenario Analysis by Jurisdictions: Initial findings and lessons. *November, Basel*. For details, please visit https://www.fsb.org/wp-content/uploads/P151122.pdf
[117] NGFS Climate Scenarios for central banks and supervisors – phase 2.
[118] NiGEM (National Institute Global Econometric Model) is a leading macroeconomic model designed by National Institute of Economic and Social Research, UK.
[119] For instance, Bank of Canada (MIT-EPPA), Banco de Espana (CATS general equilibrium).
[120] For example, Malta Financial Services Authority, De Nederlandsche Bank.

- **Approaches and Assumptions on Balance Sheet**

For the purpose of stress testing, in general, top-down and/or bottom-up approaches are usually employed. The former is generally employed by the regulators/ supervisors whereas the latter is applied by the individual institutions. In case of climate stress tests, a top-down exercise allows the authorities to cover a large sample of institutions, including many smaller players that might not have the expertise to perform bottom-up assessments. Furthermore, a top down approach improves the consistency and comparability of the results while minimizing the regulatory burden on the individual institutions.

On the other hand, bottom up approach enables the authorities to evaluate and develop the climate risk assessment capabilities of individual financial institutions. In addition, many bottom-up approaches involve financial institutions directly engaging their counterparties to better assess climate-related counterparty risks. This generates important data on firm-level exposures that facilitates new analyses to better understand the risks to financial firms as well as the overall financial system.

Table 4.1.1: Climate Stress Tests: Approaches and Assumptions

	Approach
Top Down	Brazil, Canada, Denmark, Egypt, Finland, Hungary, Indonesia, Italy, Korea, Norway, Portugal, Spain,
Bottom up	Australia, Colombia, ECB, France, Germany, Hong Kong, India, Japan, Singapore, UK
	Balance Sheet Assumption
Static	Brazil, Canada, Denmark, Egypt, Finland, Hong Kong, Hungary, Iceland, Indonesia, Italy, Japan
Dynamic	Australia, Colombia, ECB, France, Germany, Norway, South Africa, Spain

Source : FSB & NGFS climate scenario analysis by jurisdiction

As with regular stress testing exercise, a major requirement of climate risk scenario analysis is the assumption of static or dynamic balance sheet. A static balance sheet assumption generally assumes that financial institutions' balance sheets remain constant over the projection horizon in terms of size and composition and hence explores the vulnerability of today's business model to future shocks. On the other hand, a dynamic balance sheet assumption can incorporate future business expectations, and takes into account management actions of financial institutions in response to events over the scenario horizon. Jurisdiction-wise detail of approaches and balance sheet assumptions is provided **(Table 4.1.1)**.

- **Data Used**

Given the cross cutting nature of climate change, a wide range of financial and non-financial data are employed. In terms of non-financial data, greenhouse gas (GHG) emissions is the major variable used for analysis of transition risk. The data on GHG emissions, however, presents challenges depending on where the emissions emanate in the value chain **(Table 4.1.2).** Given data availability issues with Scope 3 emissions, many authorities have only employed Scope 1 and 2 data.

Table 4.1.2: GHG emissions across value chain

Scope 1	Direct greenhouse (GHG) emissions that occur from sources that are controlled or owned by an organization.
Scope 2	Indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling.
Scope 3	Emissions result of activities from assets not owned or controlled by the reporting organization, but that the organization indirectly affects in its value chain

Source: US Environmental Protection Agency

Some scenario analysis exercises have also used sector specific and firm specific information to supplement their analysis (e.g., ECB and UK).[121]

[121] For instance, ECB used energy performance certificates for properties, BoE used car price data for internal combustion engines and statistics relating to composition of new vehicle sales.

Projections of macroeconomic and energy variables (e.g., energy demand, price and mix) are used to inform sectoral and counter party analysis. The data for these variables is mainly sourced through NGFS climate scenarios and national authorities' databases. For assessment of physical risks, the authorities used forward-looking risk indicators that included indicators for flooding, drought, wildfire, hurricanes and sea level rise. **(Table 4.1.3)**.

For financial data, majority of the exercises have used banking asset exposures by sector and geographical location of the borrowers. In addition to the above exposure data, authorities have also employed data for insurance coverage, projected dividend pathways and IMF World Economic Outlook forecasts.

Table 4.1.3: Indicators of Physical Risk used in scenario analysis

European Central Bank	Damage rates for commercial and residential buildings for different flood depth levels, as well as estimated impacts of heat stress on labour productivity .
Banque de France	Forward-looking indicators for health risk (e.g. mortality rates) due to vector-borne diseases and air pollution at a national and regional level.
South Africa Reserve Bank	Rainfall data from its national weather service to design a historically consistent drought scenario.
Australian Prudential Regulation Authority	Postcode-level risk index projections for tropical cyclone, precipitation stress, river flood, fire weather stress, drought stress and heat stress.
Hong Kong Monetary Authority	Adopted the projection of climate pattern by the Hong Kong Observatory for banks to estimate the impact of physical risk

Source: Relevant Climate Stress Testing Exercises

Assessment of Climate Risk at the SBP – Current Approaches and Way Forward

Pakistan ranks among the top 10 countries affected by climate change and natural disasters.[122] According to the World Bank group, climate related disasters in Pakistan resulted in a total economic loss of USD 29 billion (inflation adjusted) between 1992 and 2021. Recent floods in the monsoon of 2022 served as a knockout blow to the growth as economic losses of USD 15.2 billion were inflicted.[123] Given the severity of climate change risk facing Pakistan, an assessment of physical and transition risks to the financial sector of Pakistan is crucial.

Pakistan's financial sector comprises of Banks, DFIs, MFBs, CDNS, Insurance companies and NBFIs. However, around 77 percent assets of the financial sector are concentrated in the banking sector.

Current Practices

The SBP has been including climate related stresses in its annual stress testing exercise, which is also published as part of FSR. In previous three FSRs, the exercise incorporated the impacts of floods and droughts on aggregate output and banks' soundness indicators, mainly through physical risk. FSR 2021 also outlined overall dynamics of climate-change risks and the policy initiatives to mitigate these risks.

Way Forward

SBP aims to enhance the assessments of climate related risks by incorporating granular level information on risk drivers.

Table 4.1.4: NDCs and mitigation actions

Sr. No	Actions
I	50 percent reduction of Pakistan's projected emissions by 2030 (15 percent unconditional , 35 percent conditional)
II	60 percent of the energy to be produced through renewable energy sources.
III	By 2030, 30 % of all new vehicles sold in Pakistan in various categories will be Electric Vehicles (EVs).
IV	From 2020, new coal power plants are subject to a moratorium, and no generation of power through imported coal shall be allowed,
V	2016 onwards, continued investments in NbS through the largest ever afforestation program in the history of the country—the Ten Billion Tree Tsunami Programme (TBTTP)—will sequester 148.76 MtCO2e emissions over the next 10 years.
VI	By 2023, total protected areas in the country will be enhanced from 12% to 15%.

Source: GOPs updated NDCs 2021

There are a number of ways to incorporate the climate related risks in the in-house stress testing exercises. For instance, for transition risk, SBP can rely on the scenarios provided by the NGFS. In addition, the transition risks can

[122] German Watch. (2021). Global Climate Risk Index 2021.

[123] Pakistan floods 2022: Post-Disaster Needs Assessment.

be incorporated and modelled in accordance with the Nationally Determined Contributions, committed by the government of Pakistan in compliance with Paris Agreement of 2016 **(Table 4.1.4)**.

For assessment of physical risks, scenarios can be developed by relying on data from historical damages due to floods and heavy rainfalls (as is already being done in stress testing contained in FSRs). Time horizon of the scenario may, however, vary with the nature of risk(s) considered. Shorter horizon can be adopted for acute physical risk and transition risk arising from immediate change in regulations. For instance, in the wake of recent floods, an assessment of potential credit risks over two quarters to the banking sector was conducted. Nonetheless, longer horizons are more suited for assessing medium term structural risks arising from transition or chronic physical risks.

In terms of approach, the top down approach towards climate stress testing is currently more suitable, given data limitations. This will enable SBP to evaluate the climate risk for a large number of institutions, especially smaller institutions that might not have the expertise for a bottom up assessment. In terms of balance sheet approach, SBP may adopt static balance sheet approach as it provides the advantage of analyzing the vulnerability of *current business model* and financial position of the financial institutions in response to climate change.

A more robust and reliable analysis requires data on multiple dimensions. As part of building the climate related data, SBP is in the process of gathering data on exposures from financial institutions along two dimensions. First, data on sectors vulnerable to the physical and transition risks **(Table 4.1.5)**. This data set will enable the central bank to gauge the extent of institutional exposures susceptible to climate risk. Second, a more granular district level data on exposures, which will provide an estimate of portfolio disbursed in climate vulnerable geographical units. In addition, an effort will be made to prepare vulnerability, adaptability and resilience indexes of domestic geographical units to climate related disasters.

Table 4.1.5: Sectors vulnerable to climate related risks

I	Crop and animal production, hunting and related service activities
II	Forestry and logging; Fishing and aquaculture
III	Mining and quarrying
IV	Manufacturing
V	Water supply; sewerage, waste management and remediation activities
VI	Electricity, gas, steam and air conditioning supply
VII	Construction
VIII	Transportation and storage
IX	Real estate activities

Source: FSB, ECB and Bank of Canada

Challenges Ahead

Data gaps remain key challenge in reliable assessment of climate related risks faced by the financial sector in Pakistan. In terms of data availability, lack of climate related information on sectors of the economy and counterparties is a major hurdle in their climate risk analysis. In addition, dearth of data for geographical location vulnerability to climate related risks limits the ability to assess the vulnerability of financial sector assets to physical risk.

An equally important aspect is modelling the impacts given the inter-linkages and feedback effects over heterogeneous sectors as well as uncertainties revolving around interventions. For instance, the efforts to mitigate effects of physical risks may involve considerable uncertainties given long delays in implementation and full effects: costs are incurred upfront but the benefits are materialized over time.[124] Moreover, the models typically require a wide range of variables –

[124] Brunetti, C. et al. (2021). Climate Change and Financial Stability. *FEDS Notes, Federal Reserve Board.*

quantitative and qualitative – and considerable non-linearities.

Notwithstanding the challenges of data availability and complexities involved in modelling climate risk, SBP is committed to enhance its climate risk assessment framework for effective and timely assessment of climate-related risks to financial stability.

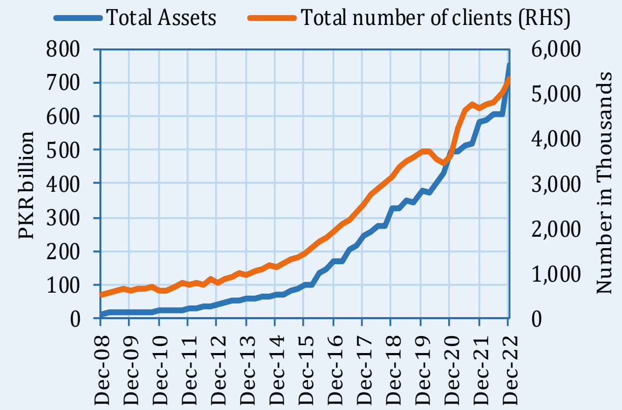
Chapter 5: The Performance and Risk Analysis of Microfinance Banks (MFBs)[125]

Due to its large customer base that surpasses that of commercial banks, MFB sector holds a special significance from the financial inclusion perspective. The asset base of the Microfinance Banks (MFBs) expanded at an accelerated pace as a result of a significant increase in investments and advances. Nevertheless, asset quality indicators remained under stress owing to the lingering effects of COVID-19 pandemic that were compounded by flooding which severely compromised the repayment capacity of micro borrowers. As a result, MFBs' losses increased during the year. Accordingly, the aggregate capital adequacy ratio of the sector came down significantly. However, sponsors of the institutions continued to show their support; further, SBP maintained enhanced supervision of the sector and provided policy support to withstand the impacts of massive flooding.

Despite having a nominal share in the financial sector's asset base, MFBs remain crucial from financial inclusion perspective...

Microfinance Banks (MFBs) play an important role in serving a large number of microcredit borrowers and depositors, contributing to the economic empowerment of low-income families and microenterprises. Although the sector only accounts for 1.6 percent of the total financial sector assets, nonetheless, the number of borrowers has risen to 5.3 million in CY22 (4.7 million in CY21) or around 55 percent of the combined borrowers of banks and MFBs.[126] This shows that MFBs are the key driver towards financial inclusion by providing financial services to the financially underserved segments of the population (**Chart 5.1**).

Chart 5.1: Growth in MFB Sector



Source: SBP

MFBs recorded an accelerated growth, which was driven by investments in government securities and advances ...

The asset base of the MFBs reached PKR 753.0 billion after recording an accelerated growth of 29.4 percent in CY22 (17.8 percent in CY21). The growth was largely driven by higher investments (especially in government securities) followed by advances, which increased by 71.0 percent and 23.0 percent, respectively. MFBs capitalized on the government's budgetary needs - by making hefty investments in low-risk government securities (PIBs) - as well as availability of funding from the banking sector which aimed to improve ADR.

[125] Statistics of MFBs are not part of the banking sector's data set.

[126] As per the latest available data (SBP – Statistical Bulletin), the number of bank borrowers stood at 3.9 million at end of Jun-22 vis-à-vis 4.9 million borrowers of MFBs.

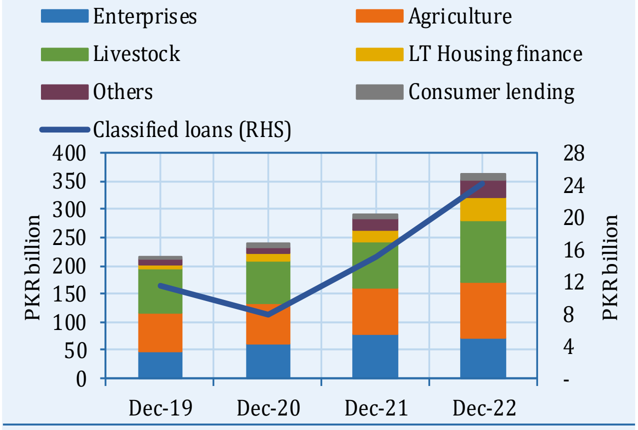
While deposits remained the main source of funding, reliance on borrowings also increased …

Although deposits remained the key source to finance the expansion in asset base – growing by 21.9 percent to reach PKR 515.8 billion at end CY22, reliance on borrowings also increased as they grew by 132.2 percent to reach PKR 137.0 billion.

Advances posted accelerated growth which was relatively broad-based in terms of flow to different sectors …

Apart from enterprise lending, all other sectors received higher advances from MFBs as compared to the last year. With an overall increase of PKR 71.4 billion in advances, the livestock sector constituted the highest share with PKR 26.2 billion followed by long-term housing (PKR 22.8 billion) and agriculture (PKR 18.4 billion) (**Chart 5.2**).

Chart 5.2: Breakup of Advances



Source: SBP

Higher loan disbursement under long-term housing finance was partly due to the government's Mark-up Subsidy for Housing Finance. The scheme was introduced for MFBs in March 2021 but further approval of loans under the scheme were kept on hold from end of June2022 in the light of macroeconomic developments.[127]

Agriculture financing rose due, in part, to the revisions in Prudential Regulations for MFBs, which allowed enhancement in the unsecured financing limit as well as in the exposure limit. Another possible aspect was the revision of Indicative Credit Limits for Agriculture Financing.[128] Indicative limits were increased to allow farmers greater access to credit in order to enhance agriculture productivity.

It is important to note that a large part of the country was affected by torrential rains and flooding during H2CY22, causing heavy human and economic losses. Agriculture sector in southern part of Punjab, Sindh and Baluchistan were severely affected. To facilitate the affected farmers, government and SBP actively introduced various policy measures. For instance, to provide relief to the farmers severely affected by torrential rains and flooding, government of Pakistan provided mark-up waivers and financing schemes under the Kissan Package 2022.[129] Further, SBP not only encouraged the MFBs to extend fresh financing but also relaxed the eligibility criteria by allowing loans against gold as collateral.

To facilitate the borrowers of MFBs and align the regulatory standards with changing market dynamics, prudential standards for MFBs were reviewed to increase the maximum size of different microfinance loans, enhance the limit of clean loans and rationalize the provisioning requirements for delinquent loans.[130]

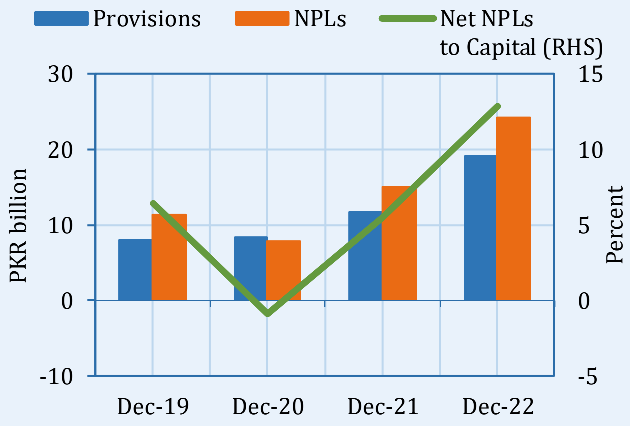
Asset quality indicators further deteriorated …

MFB sector has faced severe asset quality challenges particularly since the outbreak of the COVID-19 pandemic, which not only affected the incomes of the micro borrowers but also disrupted the institution-customer relationship due to social distancing and lockdown measures. This year's torrential rains and flooding further compounded the challenges for MFBs. During CY22, gross NPLs further rose by PKR 9.3 billion to PKR 24.2 billion. Accordingly, non-performing loans ratio (NPLR) of

[127] IH&SMEFD Circular No. 09 of 2022.
[128] AC&MFD Circular No. 01 of 2022.
[129] AC&MFD Circular No. 03 of 2022.
[130] AC&MFD Circular No. 02 of 2022.

MFBs sector increased to 6.7 percent by the end of CY22 (5.2 percent in CY21). Since additional provisioning was relatively lower, the Net NPLR increased to 1.5 percent (1.2 percent in CY21) and impairment (net NPLs to capital) ratio increased to 12.9 percent (5.4 percent in CY21), indicating increase in risks to capital position from delinquent loans. (**Chart 5.3**).

Chart 5.3: Asset Quality Indicators

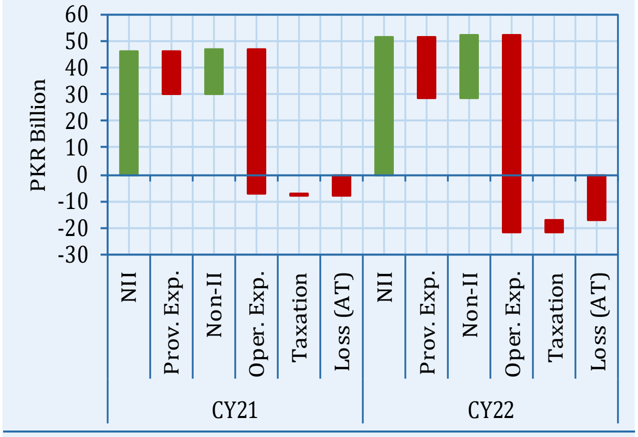


Source: SBP

Overall profitability of the sector remained in red as marginal growth in incomes was more than off-set by strong increase in administrative expense and provisioning charges…

Aggregate profitability of the sector remained in losses for the fourth consecutive year. Pre-tax loss of the sector reached PKR 21.6 billion in CY22 as compared to last year's loss of PKR 6.9 billion. Accordingly, ROE (before tax) dropped to -42.9 percent (-12.7 percent in CY21). Similarly, Operational Self Sufficiency (i.e. ratio of financial revenue to all expenses) also dropped from 76.8 percent in CY21 to 69.8 percent in CY22.

Chart 5.4: Composition of MFBs Income & Expenses

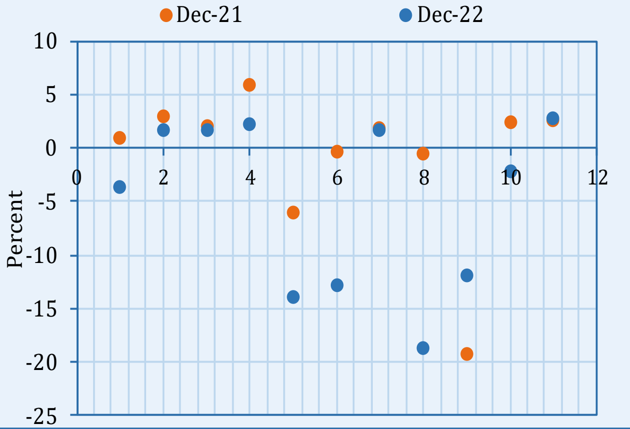


Source: SBP

Detailed analysis shows that despite hefty increase in earning assets, net-interest income grew by a relatively slower pace of 10.6 percent to reach PKR 51.3 billion for CY22. This slow pace of growth can be attributed to the rising interest rates during the last quarter, allowing interest expenses to outpace incomes. Accordingly, net interest margin (NIM) slightly fell to 10.1 percent in CY22 (11.2 percent in CY21). Due to the resumption of economic activities after COVID-19, non-interest income posted encouraging recovery during the year under review, surging by 42.0 percent (27.3 percent growth in CY21) to PKR 24.0 billion. On the other hand, admin expenses that remained muted during last couple years following the COVID-19 related lockdowns witnessed pent up growth in CY22, surging by 33.6 percent. Similarly, provisioning charges also remained high due to deterioration in asset quality and lapse of COVID-19 related loan deferment and restructuring policy. Accordingly, aggregate bottom line of the sector turned red for the fourth year in a row (**Chart 5.4**).

Further, cross sectional analysis shows that number of loss-making institutions increased to six in CY22 from four in CY21 (**Chart 5.5**). These loss-making entities incurred heavy provisioning against bad debts as they account for around 75 percent of the overall increase in the sector's NPLs.

Chart 5.5: MFB-wise ROA (before tax)



Source: SBP

Liquidity indicators slightly dropped due to relatively higher growth in asset base vis-à-vis liquid assets ...

During CY22, liquidity indicators experienced slight contraction. Although MFBs made large investments in risk-free government securities, a substantial part of this was financed by rebalancing the asset mix away from bank balances; thus, the overall liquid assets of the sector reported a relatively slow growth of 9.2 percent (3.5 percent in CY21) vis-à-vis growth in asset base and fund base. Accordingly, the share of liquid assets in total assets fell to 26.5 percent by end CY22 from 31.3 percent in CY21 while the liquid assets to short-term liabilities ratio fell to 31.9 percent in CY22 (42.4 percent at end CY21) (**Table 5.1**).

Table 5.1: Financial Soundness Indicators (FSIs) of MFBs

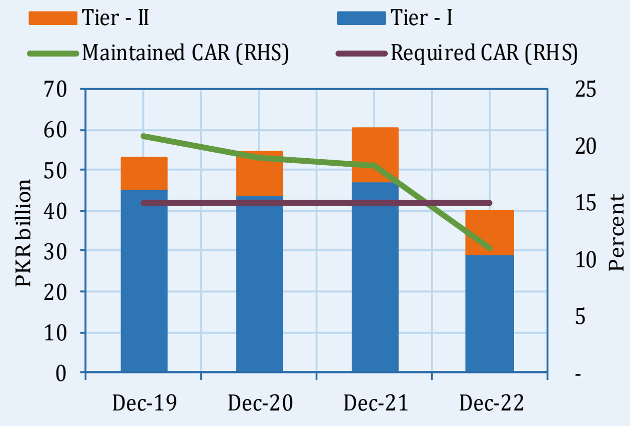
Description	Dec-19	Dec-20	Dec-21	Dec-22
	Percent			
Capital				
Total Capital to Total RWA	20.9	19.0	18.3	10.9
Tier 1 Capital to Total RWA	17.8	15.3	14.3	8.1
Asset Quality				
NPLs to Total Loans	5.3	3.3	5.2	6.7
Provision to NPLs	70.0	106.5	78.1	78.8
Net NPLs to Net Loans	1.7	-0.2	1.2	1.5
Net NPLs to Capital	6.5	-0.9	5.4	12.9
Earnings				
ROA before Tax	-1.7	-0.8	-1.3	-3.4
ROE before Tax	-12.4	-7.1	-12.7	-42.9
Operational Self Sufficiency (OSS)	75.8	81.9	76.8	69.8
Liquidity				
Liquid Assets to Short Term Liabilities	47.5	50.9	42.4	31.9

Source: SBP

Solvency indicators dropped below the minimum requirement ...

Due to overall losses and growth in asset base, the overall CAR of the MFB sector dropped from 18.3 percent in CY21 to 10.9 percent in CY22, below the minimum regulatory requirement of 15 percent for an individual institution (**Table 5.1**). At the start of the year under review, overall CAR of the sector was well above this minimum requirement, however, with the recognition of loan losses pertaining to COVID-19 related interim relief and deterioration in profitability, the CAR of the sector came under significant stress by the end of the year (**Chart 5.6**).

Chart 5.6: Capital Adequacy Ratio



Source: SBP

Although the sector remained severely affected by the pandemic and recent flooding, the sponsors continued to show their commitment to meet capital requirements and support operations by injecting further equity – paid up capital of the sector increased by PKR 5.6 billion to PKR 42.2 billion. In addition, realizing the externality of the recent flooding and importance of the MFB sector for financial inclusion, SBP continued the enhanced supervision of the sector. In order to mitigate the impact of the floods, MFBs were also allowed to reschedule/ restructure loans of their flood-affected borrowers for up to one year.

MFBs continue to dominate branchless banking…

MFBs play a crucial role in branchless banking (BB) in Pakistan as they account for more than 80 percent of BB accounts. The increased use of BB has significantly contributed in the policy objective of financial inclusion. Being an easily accessible and cost-effective delivery channel of financial services, BB accounts have grown at an exponential rate exceeding the total banking accounts.

During CY22, the number of BB accounts recorded a growth of 23.2 percent (25.6 percent in CY21) reaching 97 million accounts. However, the number of active accounts declined by 5.4 percent (a growth of 21.3 percent in CY21) reaching 42.5 million (**Table 8.4**). While the pandemic might have contributed to strong growth in active BB accounts in the past couple of years, conversely, the calamities caused during this year's flooding, which impacted around 33 percent of the population might have disrupted this growth momentum.[131]

The sector's outlook hinges upon the macroeconomic dynamics and recovery efforts in the flood affected areas …

The performance of MFBs during CY23 will be contingent upon their ability to tackle the disruptions caused by the flooding. Successful recovery of the outstanding loans previously deferred/ restructured under SBP's new relief scheme will also be a key determinant for the sector's performance and soundness going forward.

During CY22, SBP has proactively assisted the MFBs to continue servicing small-scale borrowers. However, the recent monetary tightening does pose increased credit risk for the sector, which needs proactive monitoring and management of underlying risks.

[131] Ministry of Planning Development & Special Initiatives – "Pakistan Floods 2022 Post-Disaster Needs Assessment"

Section B: Performance and Risk Analysis of Non-Banking Financial Sector

Chapter 6.1: Development Finance Institutions (DFIs)

Asset base of DFIs witnessed significant expansion on the back of substantial borrowing led investments in government securities, as the access to OMOs injections opened up a new avenue of liquidity for DFIs. Advances portfolio also maintained growth momentum as the SBP refinance schemes supported the lending capacity of DFIs. However, the overall asset mix further skewed towards risk-free government securities. DFIs recorded considerable growth in profitability owing to their improved net-interest income and non-interest income. Due to the stronger increase in risk-weighted assets vis-à-vis capital base, CAR of the sector marginally contracted; however, the ratio remained well above the regulatory benchmark.

DFIs registered phenomenal expansion in asset base on the back of record borrowings that were mainly invested in government securities …

The asset base of DFIs more than doubled (165.7 percent growth) during CY22 - considerably higher than the 22.6 percent growth witnessed in previous year **(Table 6.1.1)**. The sharp increase in asset base was mainly due to investment in government securities financed through borrowings from SBP and other financial institutions, while deposits showed meager growth.

SBP's permission for DFIs to participate in OMOs[132] was a significant development, which facilitated the sector's investments. Moreover, funding of the DFI sector was augmented by borrowing from commercial banks, as they substantially increased their lending to non-bank financial sector towards the end the year to improve their advances to deposit ratio[133]. The OMO facility can facilitate the day-to-day asset-liability management of DFIs as they face quite a constrained funding sources due to limited mandate on deposit mobilization[134], limited outreach of capital market, and low savings rates in the country. These factors, along with other structural issues, are the leading reason behind DFIs' inability to perform their primary objective i.e. to contribute in the capital formation and economic development of the country by extending long-term financing. Accordingly, the DFIs in general focus on investment in securities, interbank and capital market activities, and limited financing business, while equity and borrowings remain the mainstay of funding.

Table 6.1.1: Key Variables & Financial Soundness Indicators

	CY19	CY20	CY21	**CY22**	**Growth for CY22**
	PKR Billion				Percent
Investments (net)	240.2	287.0	338.4	1,168.0	245.1
Investments in Govt. Securities	183.2	220.7	263.1	1,085.5	312.5
Advances (net)	91.9	111.2	140.4	188.0	33.9
Total Assets	377.1	439.3	538.7	1,431.0	165.6
Borrowings	229.0	260.5	348.3	1,223.0	251.1
Deposits	12.0	27.4	34.0	38.1	12.0
Equity	117.0	131.7	136.4	145.0	6.3
NPLs	15.0	15.8	14.5	14.6	0.8
	Percent				
CAR	44.9	43.1	38.7	36.5	
NPLs to Advances	14.5	12.8	9.5	7.3	
Net NPLs to Net Advances	4.2	3.1	1.6	0.9	
ROA (After Tax)	2.7	3.3	2.4	1.6	
ROE (After Tax)	7.2	10.7	8.9	10.1	
Cost to Income Ratio	32.4	25.2	32.5	26.9	
Liquid Assets to ST Liabilities	97.6	97.5	98.0	98.2	
Advances to Deposits	763.8	405.1	412.6	493.4	

Source: SBP

132 SBP allowed all DFIs to participate in Open Market Operations through DMMD Circular No. 11 of 2022.
133 Government of Pakistan, through Finance Act 2022 had imposed higher tax for investment in government securities by banks, linking it to ADR. (ADR<40 percent; 55 percent tax rate, ADR40 -<50 percent; 49 percent tax rate, ADR>50 percent; 39 percent tax rate). This tax policy has been withdrawn for tax year 2024.
134 Unlike commercial banks, DFIs cannot raise demand deposits.

DFIs posted phenomenal growth in their investment portfolio as the fresh investment mainly flew to short-term government securities ….

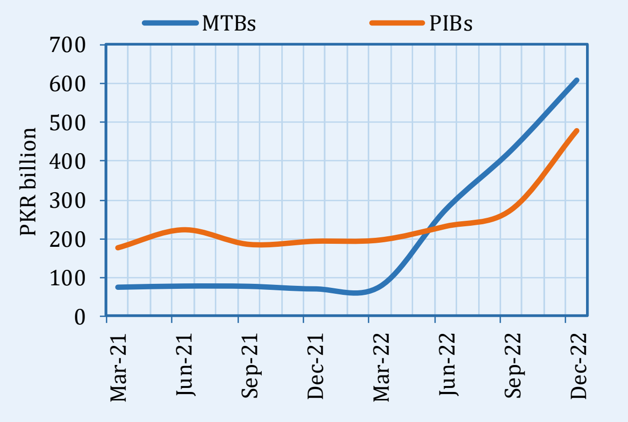
Investments displayed phenomenal growth of 245.1 percent during CY22 and their share in asset base rose to 81.7 percent (62.8 percent in CY21). Almost the entire fresh investment (99.1 percent of the increase) went to government securities which grew by 312.5 percent to PKR 1,085.5 billion and their share in total investment increased to 92.6 percent (76.8 percent in CY21). On the other hand, investment in equity stock grew by 12.2 percent to PKR 50.1 billion.

Substantial amount of investment was made in MTBs and floating rate PIBs due to short-term nature of underlying borrowings and rising interest rate environment….

Further analysis shows that the major increase in government securities occurred during later part of CY22 and MTBs accounted for two third of this increase followed by floating-rate PIBs. This development reflected both (a)- the access to short-term OMOs and bank funding that necessitated the investment in matching short-term bills to minimize liquidity risk, and (b)- rising interest rate scenario (interest rate increased by 625 bps over the year) that entailed revaluation losses on longer term fixed investments bonds. Therefore, DFIs preferred to invest in MTBs and floating rate PIBs that have relatively lower sensitivity to changes in interest rates.

The portfolio of MTBs posted a massive increase of PKR 537.1 billion to reach PKR 607.3 billion by end Dec-22; while, with an increase of PKR 286.1 billion, overall stock of PIBs touched PKR 478.2 billion **(Chart 6.1.1)**. Accordingly, the portion of MTBs in overall federal government securities investment jumped to 55.9 percent in CY22 from 26.7 percent reported in CY21.

Chart 6.1.1: Stock of MTBs and PIBs

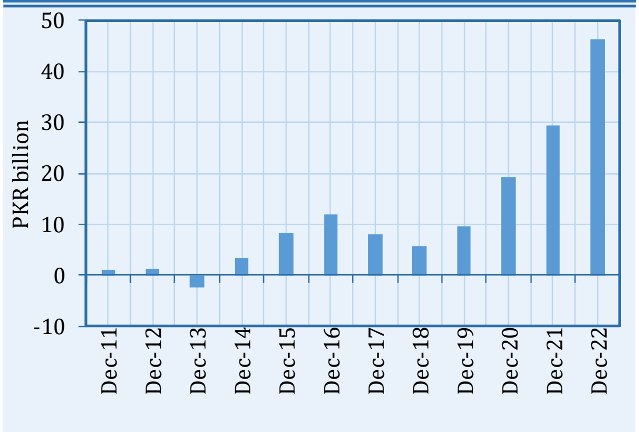


Source: SBP

Advances grew at an accelerated pace as the SBP refinance schemes augmented the liquidity and lending capacity of DFIs….

Growth in advances in CY22 accelerated to 33.9 percent compared to 26.3 percent seen in CY21 **(Chart 6.1.2)**. Although advances increased by PKR 47.6 billion over the year to PKR 188.1 billion, their share in the overall asset base declined to 13.1 percent (26.1 percent in CY21) due to higher growth in investments. The increase in advances was mainly supported by SBP's long-term refinance schemes with fresh funding under LTFF (PKR 20.7 billion), Renewable Energy (PKR 3.8 billion) and TERF (PKR 8.0 billion).

Chart 6.1.2: Flow in Advances (net)



Source: SBP

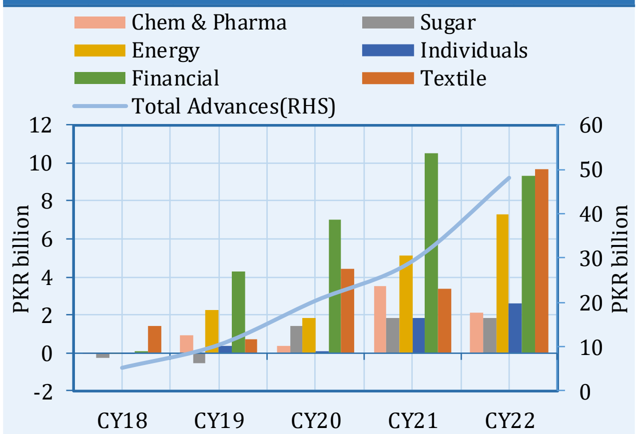
Corporate sector received the major share in financing...

In line with its share in overall loan portfolio of DFIs (70.2 percent), corporate sector remained the major user of loans extended by DFIs during the year under review. Large corporate firms availed additional financing of PKR 35.4 billion during CY22 – around 64 percent of the fresh loans were obtained by corporate sector for fixed investment purposes followed by working capital, as the working capital needs were also augmented by higher inflation and commodity prices.

Growth in advances remained broad based ...

Sector wise assessment depicted that rise in advances was contributed by different sectors. Textile was the major contributor followed by Financial, Energy, Chemical & Pharmaceuticals, Sugar and Cement **(Chart 6.1.3)**.

Chart 6.1.3: Sector-wise flow in advances



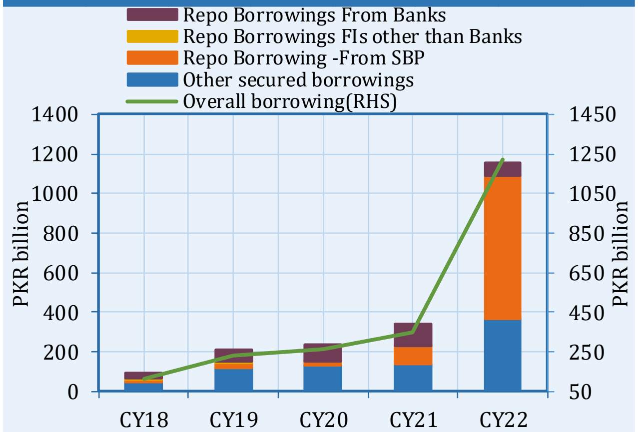
Source: SBP

Borrowing was the predominant source of funding to finance the expansion in asset base ......

For their funding needs, DFIs generally rely on interbank markets to finance their assets. However, with the availability of financing through OMOs during CY22, DFIs availed significant amount of this facility towards the end of the year. Resultantly, total borrowing from SBP surged to PKR 760.9 billion by end CY22 compared to a mere PKR 114.8 billion in CY21.

During the year under review, borrowings from financial institutions witnessed significant increase, particularly in H2CY22. The interbank repo borrowing from banks and financial institutions dropped by 41.9 percent to PKR 63.7 billion during the year. However, DFIs' other secured borrowing phenomenally increased (by 194.0 percent) to PKR 332.2 billion, as commercial banks extended substantial loans to the non-bank financial sector including DFIs to improve their ADR. **(Chart 6.1.4)**.

Chart 6.1.4: Composition of borrowings of DFIs

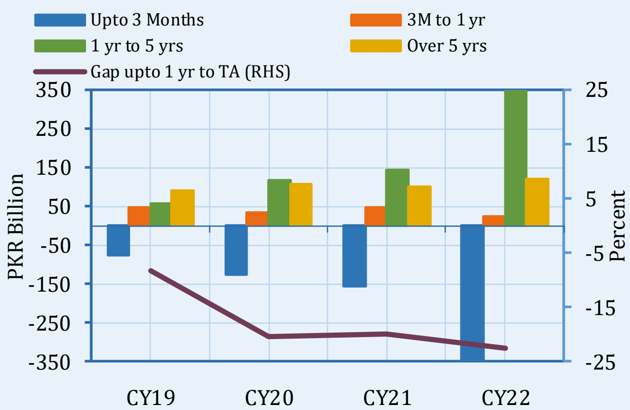


Source: SBP

Liquidity indicators of the DFIs sector witnessed improvement, though the maturity mismatch slightly increased ...

Maturity-wise breakup reveals that major part of assets and liabilities have shorter maturity, i.e. around 57 percent of assets and 90 percent of liabilities mature within one year. The maturity mismatch in this time bucket slightly increased over the year to 22.5 percent of total assets (from 20 percent in CY21) as the sector heavily relied on short-term borrowing to finance the asset base **(Chart 6.1.5)**. However, ample availability of liquidity cushion in the form of low-risk assets abated the concerns of maturity mismatch, as the share of liquid assets in total assets increased significantly to 77.9 percent (54.7 percent in CY21). Furthermore, liquid assets to short-term liabilities ratio largely remained stable at 98.2 percent.

Chart 6.1.5: Maturity gaps between assets & liabilities



Source: SBP

While majority of earning assets had longer maturity, their repricing maturity was relatively shorter, indicating lower sensitivity to interest rate changes …

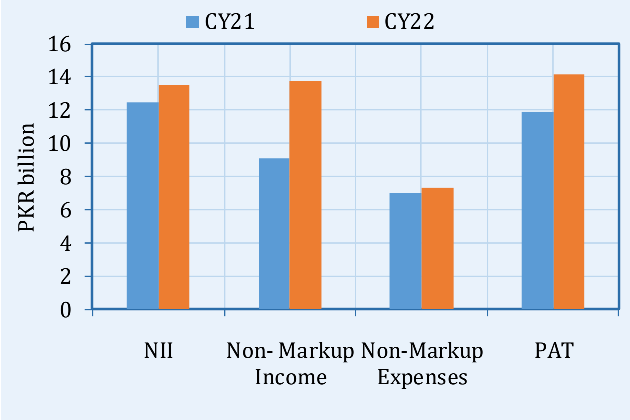
Segment wise break up of loans showed that the fixed investment loans to large corporate firms and SMEs were around 53 percent of total loans while 44 percent of government securities comprised PIBs at end Dec-22. However, maturity analysis in terms of remaining time to repricing of assets revealed that a major portion of the loans and investments had relatively shorter maturity. That is, 52.3 percent of advances were repricing within three months and 11.3 percent in three months to one year, while 73.6 percent of investments were repricing within three months and 20.4 percent in three months to one year.

Profitability surged by virtue of robust growth in both net interest and non-interest incomes …

Profit after tax (PAT) of DFIs increased by 18.8 percent to PKR 14.1 billion in the year under review (PKR 11.9 billion in CY21), owing to growth in both net interest income and non–interest earnings. While gross income posted strong growth of 26.5 percent, operating expenses grew at a muted pace i.e. 4.9 percent. However, tax charges of the sector on aggregate basis inched up to 23.3 percent of pre-tax profit (20.2 percent in CY21).

Detailed analysis shows that major boost to gross income came from non-interest income which accelerated by 51.1 percent – particularly supported by a significant rise in dividend income and trading gains on stocks and PIBs. Net Interest Income (NII) posted relatively contained growth as growth in the asset base mainly occurred during the latter part of CY22 and its impact had not fully materialized in income by the end of the year. On the other hand, interest expense grew at a faster pace as the impact of rise in interest rates translated onto short-term borrowings and deposits relatively early as compared to assets (especially loans and long-term investments), which reprice according to their respective terms and conditions **(Chart 6.1.6).** Accordingly, net interest margin (NIM)[135] of the DFI sector contracted over the year to 1.6 percent from 2.6 percent in last year.

Chart 6.1.6: Earnings of DFIs in CY22



Source: SBP

Since the growth in income was volume driven, bottom line indicator ROA showed contraction, while ROE improved …

With substantial buildup in asset base vis-à-vis earnings, after tax return on assets (ROA)

135 NIM is defined as = NII / average earning assets.

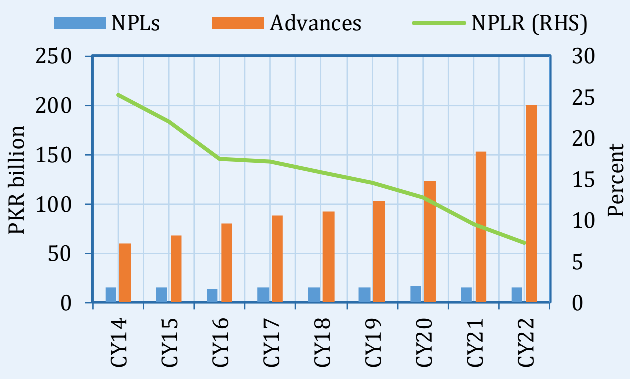
declined to 1.6 percent during current year (2.4 percent in CY21).

On the other hand, return on equity (ROE) improved to 10.1 percent during the reviewed year (8.9 percent in preceding year) due to robust earnings and modest growth in equity, as the growth in asset-base was mainly in risk-free assets, which enabled DFIs to support this strong expansion with relatively slower growth in capital base.

Asset quality indicators improved owing to increase in advances and contained growth in NPLs ...

Infection ratio of the DFI sector, over the years, has shown improvement on the back of growth in advances, contained delinquencies and recoveries of non-performing loans (NPLs). NPL to loans ratio maintained its improving (i.e. declining) trajectory during reviewed year and shrunk to 7.3 percent from 9.5 in CY21 **(Chart 6.1.7)**. As against a marginal 0.8 percent increase in NPLs to PKR 14.6 billion, DFIs set aside higher amount of provisioning to cover loan losses. Thus, the provisioning coverage improved to 87.9 percent by end CY22 (84.9 percent in last year). Accordingly, Net NPL to net loans and capital impairment ratios declined over the year to 0.9 percent (from 1.6 percent) and 1.2 percent (from 1.6 percent), respectively.

Chart 6.1.7: Asset quality improved amid growth in advances



Source: SBP

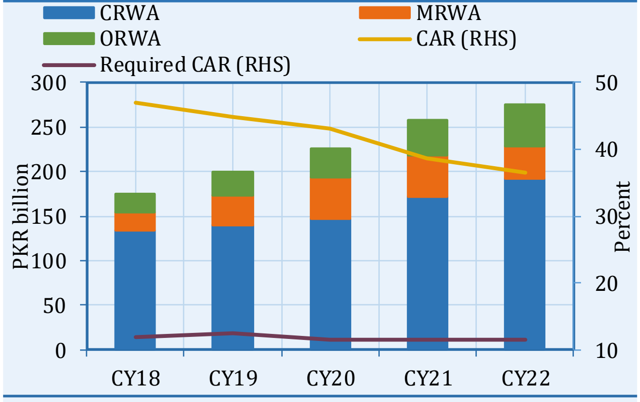
CAR of DFI sector posted a nominal decline, however, the ratio still remained considerably higher than the minimum regulatory benchmark...

CAR of DFI sector normally remains well above the required benchmark due to strong capital base and risk averse business strategy as DFIs mainly rely on investment in risk-free government securities vis-à-vis financing.

During the year under review, CAR decreased slightly to 36.5 percent (38.7 percent in previous year). Nonetheless, the ratio remained considerably higher than the regulatory requirement of 11.5 percent **(Chart 6.1.8)**. The marginal decrease in CAR was apparently due to faster increase in RWAs (i.e. 7.0 percent) vis-à-vis the increase in eligible capital (i.e. 1.1 percent).

Further analysis of RWAs reflects positive momentum in financing activity, as credit RWAs increased by 12.1 percent. In tandem with growth in business volume and incomes, operational RWAs also surged by 18.1 percent because of expansion in gross income. However, market RWAs decreased by 20.8 percent owing to shift in investment pattern of DFIs towards short-term securities and floating PIB which have lower sensitivity to interest rate risk and entail lower capital charge. Relative share of credit, operational and market risks in RWAs remained 69.8 percent, 16.7 percent and 13.4 percent, respectively.

Chart 6.1.8: CAR stays well above the required benchmark



Source: SBP

...Way forward for DFIs – a need to redefine the role

DFIs were set up with the objectives of development finance and promotion of capital formation in the economy. However, due to a number of challenges, DFIs are constrained to follow a conservative business strategy of investing and trading in risk-free and marketable securities. Besides, idiosyncratic business considerations of the institutions, these challenges include some deep-rooted structural issues as well e.g., restricted outreach of capital market, low saving rate in the country, tough competition from banks and limited mandate for deposit mobilization, absence of funding support from government or international development agencies, and relatively low demand for long-term financing in the market due to prevailing economic challenges and uncertainties.

During the year under review, DFIs showed some growth in long-term financing with support of SBP's refinance schemes. However, with the decision of linking LTFF rate to policy rate[136] and subsequent instruction for reduction in the gap between both rates[137], the repayment capacity of borrowers and the asset quality of DFIs may face pressures.

[136] SBP linked LTFF rate to policy rate through IH&SMEFD Circular No. 11 of 2022.

[137] Gap between policy rate and LTFF reduced by SBP through IH&SMEFD Circular No. 13 of 2022.

Chapter 6.2: Non-Bank Financial Institutions

NBFIs showed accelerated growth during CY22 that was mainly driven by mutual funds, which contribute the major part of the sector's assets, while Real Estate Investment Trust (REIT) also witnessed significant activity. The conducive policy environment for housing and construction sectors in recent years supported the launch of new REIT schemes and operationalization of a few housing finance companies (HFCs). Due to the hike in interest rates and buildup of macroeconomic risks, money market and income funds witnessed significant sales in the mutual fund sector, which are relatively safer avenues. In the lending segment, the Non-Bank Microfinance Companies (NBMFCs), which mostly operate in rural areas, were affected by floods that led to an increase in their classified assets. Going forward, stressed macrofinancial conditions and geo-political uncertainties could burden the performance and growth of lending segment of NBFIs and influence the growth dynamics of mutual fund sector.

Despite uncertain economic conditions, the NBFI sector continued its growth trajectory ...

Pakistan has a bank-centric financial system where the share of Non-Bank Financial Institutions (NBFIs)[138] remains small and its contribution to financial intermediation is relatively limited. However, the sector is in growth phase, and during CY22 it witnessed acceleration in its growth trajectory. The NBFI sector's asset base grew by 26.7 percent during CY22 (compared to 19.0 percent in CY21) on the back of impressive growth demonstrated by the asset management segment, particularly mutual funds and REITs (**Chart 6.2.1**).

Table 6.2.1: Asset Profile of NBFIs

	Dec-20	Jun-21	Dec-21	Jun-22	Dec-22
			PKR billion		
AMCs/IAs (own assets)	**44**	**45**	**46**	53	**48**
Mutual Funds	985	1,087	1,192	1,281	1,574
Pension Funds	36	40	40	42	44
Portfolios	314	338	374	356	358
Total AUMs	**1,335**	**1,465**	**1,605**	1,679	**1,976**
RMCs	6	7	8	8	9
REITS	54	54	67	98	168
PE & VC Firms	0	0	0	0	0
PE Funds	8	7	10	11	12
Modarabas	51	54	57	61	65
Leasing Companies	6	5	5	6	6
Housing Finance Cos.	-	-	0	0	1
IFCs	66	63	78	91	109
NBMFCs	129	137	146	163	168
Total Assets	**1,700**	**1,839**	**2,023**	2,171	**2,563**

Source: SECP

Asset Management (AM)[139] Segment

The AM segment dominates the NBFI sector with 86.4 percent market share in terms of assets. The segment posted a healthy 27.5 percent growth during the year under review.

[138] NBFIs for our analysis purpose include NBFCs, Real Estate Investment Trusts (REITs), and Modaraba Companies. As per section 282A of the repealed Companies Ordinance, 1984 (wherein Part VIIIA - consisting of sections 282A to 282N – does not stand repealed and is applicable to NBFCs), Non-banking finance companies (NBFCs) include companies licensed by the Commission to carry out any or more of the following forms of business, namely: Investment finance services, Leasing, Housing Finance Services, Venture Capital Investment, Discounting Services, Investment Advisory Services, Asset Management Services, and any other form of business which the Federal Government may, by notification in the official Gazette specify from time to time. Non-bank Microfinance Companies (NBMFCs) are also included in NBFCs.

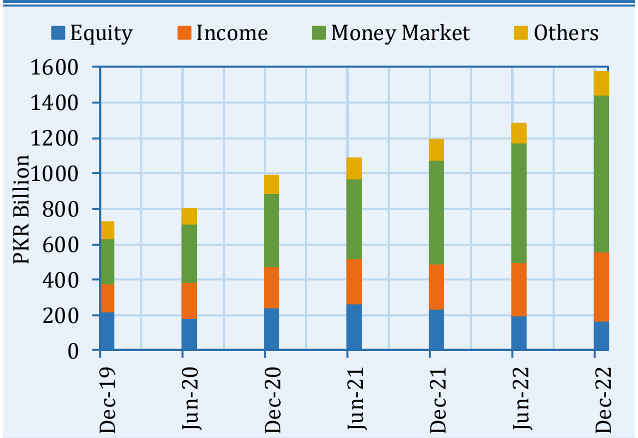
[139] The Asset Management (AM) segment includes: Asset Management Companies (AMCs), Investment Advisors (IAs), Real Estate Investment Trusts (REITs), Mutual Funds, Pension Funds, Private Equity (PE) Funds, and Discretionary/ Non-discretionary Portfolios.

Money market funds continued to dominate the growth of mutual funds sector ...

Due to the hike in interest rates and strained economic conditions, investments in both money market funds and income funds increased while equity funds witnessed redemptions due to the downward trend in the stock market. The fresh sales were mainly responsible for the growth in money market and income funds.

The mutual fund sector increased its assets under management (AUM) by 32.1 percent to PKR 1,574.2 billion in CY22. The total number of funds and plans increased from 285 to 313 while the total number of Asset Management Companies / Investment Advisors (AMCs/IAs) increased from 26 to 29 over the year. Accordingly, the own assets of AMCs/ IAs increased from PKR 45.7 billion to PKR 48.3 billion in CY22.

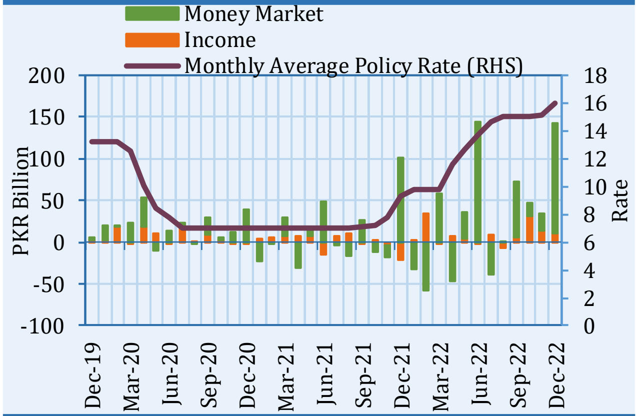
Chart 6.2.1: Composition of Mutual Funds



Source: SECP

Short-term and relatively low risk funds remained the preferred avenue for investors during CY22. Accordingly, money market funds grew at a stronger pace and their share in mutual fund sector further increased to 56.2 percent by end of CY22 (49.2 percent in CY21), while income funds and equity funds constituted 24.8 percent and 10.8 percent share, respectively (**Chart 6.2.1** and **Chart 6.2.2a**).

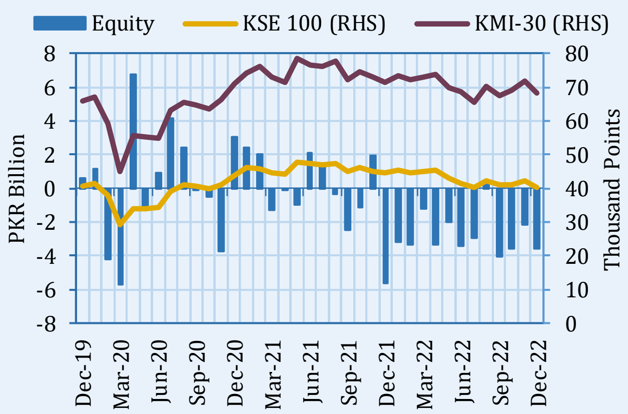
Chart 6.2.2a: Net Sales of money market and income funds



Source: MUFAP & SBP

The performance of KSE-100 index was lackluster during the year under review due to building macroeconomic stresses such as high inflation, floods, geopolitical issues, among others, which weighed heavily on the index's performance. With significant volatility during the year, benchmark KSE-100 index closed at 40,420 points at end-CY22 as against 44,596 points at end-CY21 (for further details, please see Chart 2.16). Accordingly, equity funds witnessed decline, as this segment was plagued with both redemptions and decline in Net Asset Value (NAV) (**Chart 6.2.2b**).

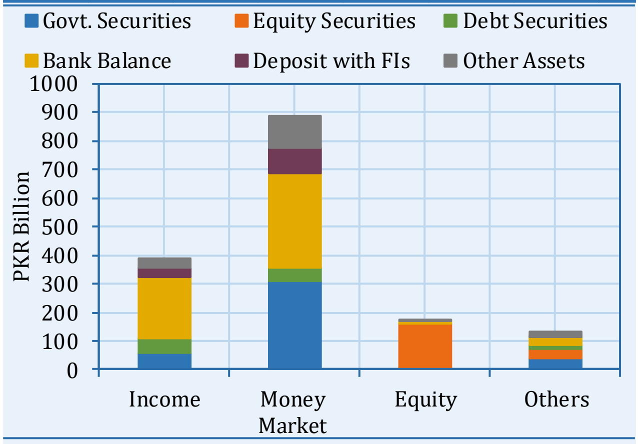
Chart 6.2.2b: Net Sales of equity funds



Source: MUFAP & PSX

In terms of asset quality, total classified assets of the industry stood at PKR 3.5 billion, which constituted 0.2 percent of assets under management (AUM)[140].

Chart 6.2.3: Asset Allocation of Mutual Funds in CY22

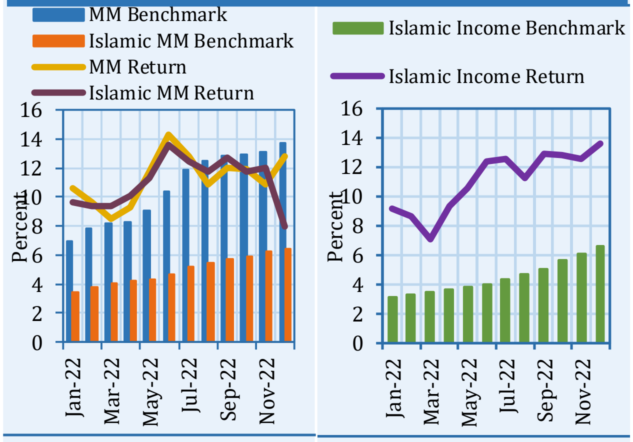


Source: SECP

The asset allocation of mutual funds sector further demonstrates the conservative investment strategy on the part of both fund managers and investors. Mutual funds had allocated most of their assets in bank balances (36.6 percent share of total assets) followed by government securities (25.7 percent) and equity securities (12.4 percent) demonstrating an overall conservative approach of the industry (**Chart 6.2.3**). This phenomenon also demonstrates the dearth of viable investment avenues for the mutual fund industry (e.g., private sector debt securities constitute only 7.1 percent of total asset allocation).

A review of select mutual funds against their associated benchmarks – that are published by the Mutual Funds Association of Pakistan (MUFAP)[141] - indicates that these funds outperformed their benchmarks in the first half of the year. In the second half, the money market fund return fell below the associated performance benchmark (**Chart 6.2.4a**).

Chart 6.2.4a: Monthly Return against MUFAP's Benchmark Return for Select Funds



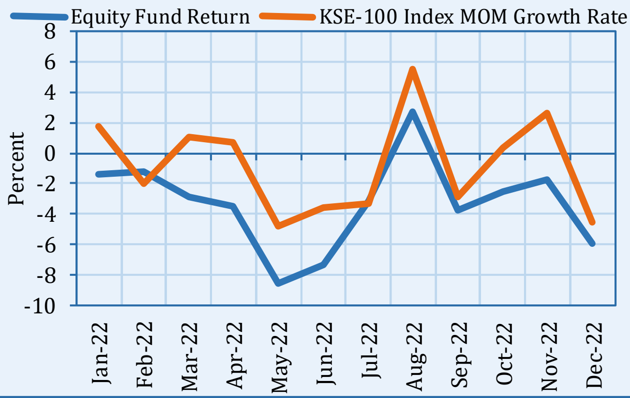
MM=Money Market; Source: MUFAP

However, equity funds consistently performed lower than the return of KSE-100 Index. The performance of underlying firms was impacted by the introduction of super-tax in some sectors, increase in interest rates, and slowdown in imports and economic activities. These factors worsened the operating environment and impacted profit margins by affecting the demand for output, increasing input and financing costs, and raising tax charges. Accordingly, returns on equity funds as well as the market index remained under pressure (**Chart 6.2.4b**).

140 Assets Under Management (AUM) include assets of mutual funds, pension funds, and portfolios under management of AMCs/ IAs.

141 The corresponding benchmarks are published by the Mutual Funds Association of Pakistan (MUFAP). As per SECP's Direction No. 27 of 2016, MUFAP publishes the deposit rates for different type of accounts of select banks for certain mutual funds. For example, for money market schemes, the average of deposit rates offered by three AA rated scheduled banks on some specific deposit accounts is taken as a performance benchmark.

Chart 6.2.4b: Equity Fund Return against KSE-100 Index



Source: MUFAP

Portfolios segment declined for the first time in recent years ...

Portfolio[142] segment slightly declined over the year from PKR 374.3 billion in Dec-21 to PKR 357.8 billion in Dec-22. There was an overall decline in portfolios by 4.3 percent as some clients with non-discretionary portfolios did not renew their contracts with investment advisors till the end of CY22.

Significant activity was witnessed in the REIT sector ...

Due to the conducive environment in terms of policy focus and support, REIT[143] sector witnessed significant activity during CY22.[144] On the operationalization of several REIT schemes during the year, the sector increased its asset base from PKR 67.1 billion in Dec-21 to PKR 167.6 billion in Dec-22.

This sector is relatively in its nascent stage, as there are around 16 REIT Management Companies (RMCs) in the sector, however, the existing 11 schemes are being offered by only three RMCs while others are yet to offer their schemes to investors (**Table 6.2.2**).

Table 6.2.2: Two Major heads of REIT Earnings*

Description	Jun-20	Dec-20	Jun-21	Dec-21	Jun-22	Dec-22
	PKR Billion					
Total Assets (Stocks)	52.0	54.4	58.1	60.0	68.9	69.6
Rental Income (HY)	1.1	1.4	1.5	1.7	1.9	2.1
Profit b/f change in fair value of Investment property (HY)	1.1	1.3	1.4	1.5	2.2	2.3
Change in fair value of property (HY Flows)	3.0	2.1	3.8	1.8	4.7	0.5

Source: Financial Statements of two REIT Schemes
*Other REIT schemes have not yet published their financials

Rental income rebounded since 2020 justifying the REITs' approach to retain tenants by providing rental waivers during the pandemic.[145]

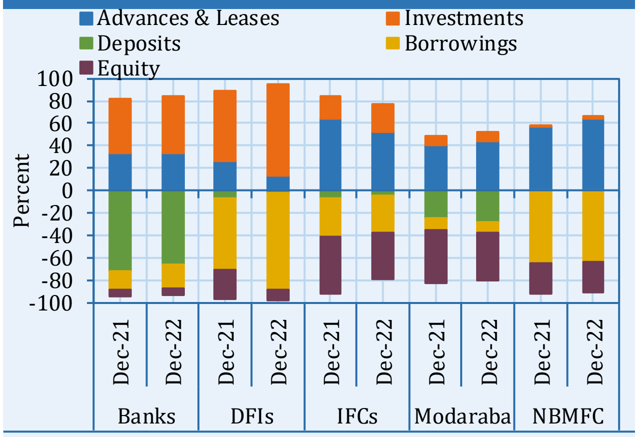
Lending NBFIs[146]

The asset base of lending NBFI segment increased from PKR 287.2 billion to PKR 349.3 billion in CY22.

A comparison of key balance sheet items as a proportion of total assets for different FIs over last two years showed that barring banks, MFBs and Modarabas, most other FIs continued to rely only on borrowings and equity to fund their asset base. This provides a competitive advantage to banks (and to a lesser extent to MFBs) in terms of low-cost funding as they are able to raise deposits from the general public (**Chart 6.2.5**).

[142] Portfolios (Under Management) are investments of eligible investors (person offering a minimum of PKR 3 million investment) managed by Investment Advisors. Under "Discretionary Portfolios", investment decisions are made and executed by the Investment Advisor on behalf of clients. While under a "Non-Discretionary Portfolio", investment decisions are executed as per the written instructions of the clients.
[143] REITs are investment schemes that own and most often actively manage income-producing real estate. Through such schemes, investors may own, operate or finance income-generating property across various categories of real estate. (For further details, please see: https://invest.gov.pk/sites/default/files/2020-08/REITS%20FAQs.pdf)
[144] SECP issued the Real Estate Investment Trust Regulations, 2022 to promote real estate activity in the organized sector (For further details, please see: https://www.secp.gov.pk/document/real-estate-investment-trust-regulations-2022/).
SBP made amendments to Prudential Regulations and capital adequacy-related risk weights to encourage enhanced participation and investment of banks/DFIs in REITs. (For further details, please see: https://www.sbp.org.pk/press/2021/Pr-22-Mar-21.pdf; https://www.sbp.org.pk/press/2021/Pr-02-Jun-2021.pdf)
[145] Based on the data of two REIT schemes. Other REIT schemes have yet to publish their financials.
[146] Lending NBFIs (also referred to as the non-AM segment) include Leasing Companies, Modarabas, IFCs, HFCs, NBMFCs, etc.

Chart 6.2.5: FIs' Key Variables as Percent of Assets



Assets	Banks	DFIs	IFCs	Modaraba	NBMFC
	PKR Billion				
Dec-21	30,058	539	78	57	146
Dec-22	35,796	1,431	109	65	168

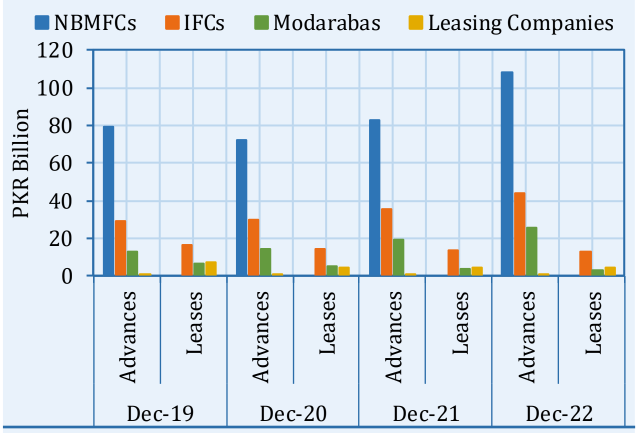
Source: SECP

Particularly, the hike in interest rates in CY22 increased the cost of borrowing for lending NBFIs. While the NBFIs have generally been able to remain profitable for the year under review, any long-term elevation in funding costs may put pressure on profit margins in the medium term.

In addition, banks increased their lending to DFIs and IFCs to improve their ADR in light of the ADR-linked tax policy (for further details, please see Chapter 6.1). This led to a significant increase in borrowing for these FIs, which, in turn, invested most of the additional funds in government securities due to their attractive rates.

In addition, while there had been an increase in advances and leases in absolute terms across all FIs in CY22, their proportion in terms of assets fell across banks, DFIs and IFCs. Only NBMFCs and Modarabas[147] increased their proportion of advances and leases in CY22. With more than 60 percent of assets in the form of advances, NBMFCs continued to play a key role in credit intermediation, albeit on a small scale.[148]

Chart 6.2.6: Advances and Leases of Lending NBFIs



Source: Karandaaz and SECP

At a more granular level, while the leasing portfolio has been steadily decreasing for lending NBFIs, the advances portfolio has been increasing, largely driven by the NBMFCs (**Chart 6.2.6**).

Modaraba sector's operating performance improved ...

The Modaraba[149] sector registered impressive growth in its advances portfolio, which increased by 32.7 percent to PKR 25.8 billion in CY22 (growth of 37.6 percent in CY21) mainly driven by the increase in the consumer auto finance portfolio. The rise in advances portfolio was partly financed through deposits which increased by 31.8 percent to PKR 18.3 billion over the same period (growth of 33.5 percent in CY21).

Profitability for the sector remained stable at PKR 2.5 billion for CY22 (similar for CY21).

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147 The combined proportion of advances and investment as a percent of assets for Modarabas is smaller compared to other FIs as they have a larger share of operating fixed assets and some Modarabas are also involved in Shariah-compliant non-financial activities such as manufacturing.

148 MFBs also continued to play a key role in credit intermediation.

149 The Modarabas are Islamic institutions, which are allowed to conduct any business, provided it is Shariah-compliant and approved by the Religious Board of Modarabas. For example, Modarabas can undertake Ijarah (leasing), Murabahah (cost-plus sale), Musharakah (partnership), Diminishing Musharakah, Salam (deferred delivery sale) and Istisna financing activities; invest in the stock market; trade halal commodities; conduct project financing activities; manufacture items; among other activities.

Table 6.2.3: Key Financial Soundness Indicators of Modaraba sector

Description	Jun-20	Jun-21	Jun-22
	Percent		
Equity to Assets	34.6	47.9	43.1
Return on Asset (BT)	-3.9	2.6	3.8
Return on Equity (BT)	-10.8	6.3	8.5
Net Profit Margin	-14.0	7.5	6.6
Current Ratio	68.2	94.6	76.0
Debt to Equity Ratio	188.2	107.7	132.2

Source: Financial Statements of Modarabas

However, the deposit to asset ratio remained low for the Modaraba sector compared to other institutions involved in financing/ lending business e.g., Islamic banks, as only banks have the mandate to raise demand deposits while outreach of capital market is limited. Consequently, the sector relied heavily on equity to fund its financing portfolio. The equity to assets ratio of 39.6 percent in Dec-22 indicated that the sector had ample cushion to absorb losses, if any, as well as potential to expand its business in line with any pickup in economic activities in future (**Table 6.2.3**).

Furthermore, the sector posted improvement in infection ratio, as the classified assets to outstanding portfolio ratio lowered to 9.3 percent in Dec-22 compared to 11.7 percent in Dec-21, which exhibited better asset quality management including strenuous recovery efforts against a significant portion of legacy portfolio during the year under review.

The conducive environment in the housing sector encouraged the operationalization of HFCs …

Pakistan has high housing needs – as of 2021, there was an estimated shortage of 12 million residential units in the country[150] - indicating that the housing finance business has enormous potential to help in meeting this need and earn lucrative returns for investors. However, the housing finance sector of NBFIs had remained almost non-existent due to multiple issues e.g., information asymmetries, issues in foreclosure and recovery laws and procedures, dearth of long-term funding due to limited outreach of capital market, among others.

In the last few years, the government prioritized housing and construction sector as a tool to both meet the housing needs of the society and support balanced economic growth. For this purpose, support measures were introduced including a mark-up subsidy scheme to support the provision of affordable housing finance to the low and middle income segments of society.[151] This policy environment encouraged some HFCs to enter the market.

While four companies are operating in the housing finance sector, they have only recently begun their operations. This can be gauged by the fact that asset base of this sector remained small and a significant portion (31.0 percent) of the assets were in the form of cash, bank balances and placements with financial institutions.

The advances of the sector stood at PKR 238.6 million as of Dec-22 while major part of the asset base was funded by equity.

Leasing companies witnessed a revival in their growth on the back of auto loans …

Leasing companies had been on a downward trajectory for years, especially hampered by higher cost of funds, which affected their competitiveness compared to other financial institutions like banks in the leasing business. Their asset base declined from PKR 44.6 billion in

150 Promoting Housing and Construction Finance - https://www.sbp.org.pk/hcf/index.html.

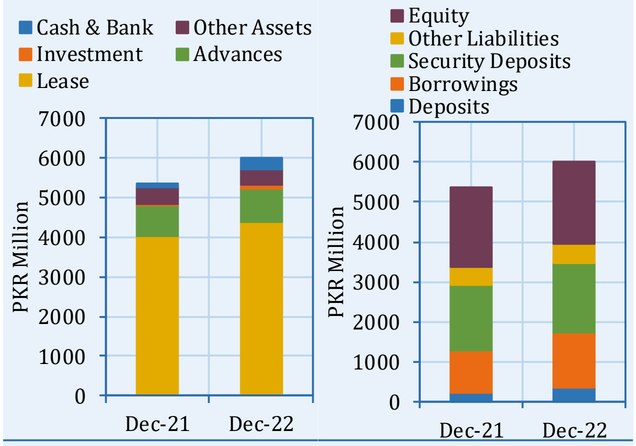
151 In late 2020, the government introduced the mark-up subsidy scheme on housing finance. However, the scheme was suspended in CY22. In addition, SBP took a number of measures (such as the introduction of mandatory targets) to promote housing finance. In 2021, SBP allowed counting of investments in REITs, bonds or Sukuk of PMRC, and financing to MFBs for housing finance by banks or DFIs towards achievement of their housing and construction finance targets. In addition, the terms and conditions for housing finance have been simplified such as the acceptance of liquid securities or other property as collateral.

Dec-17 to PKR 5.4 billion in Dec-21 as various companies exited the sector.

However, leasing sector's asset base posted a growth of 12.0 percent in CY22, as the sector was able to expand its auto financing portfolio due, in part, to the tightening of macroprudential measures of SBP in respect of banks' auto financing. This change in prudential standards for banks provided some room to NBFIs to meet the auto financing needs of the borrowers.

While assets of leasing firms were mainly in the form of earning assets (87.0 percent of total assets), for funding they were heavily reliant on equity, followed by security deposits and borrowing (**Chart 6.2.7**).

Chart 6.2.7: Balance Sheet Items of Leasing Sector



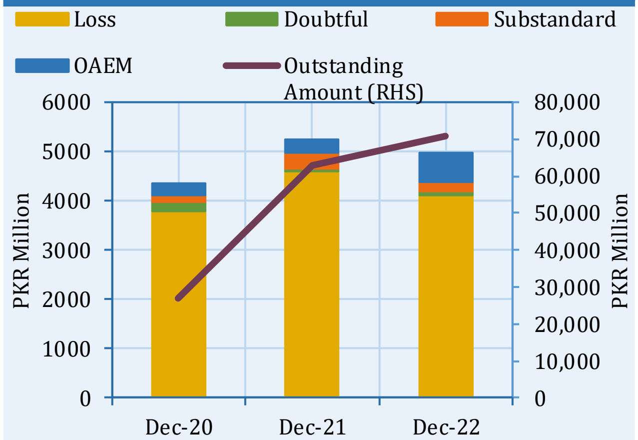
Source: SECP

Investment finance company (IFC) sector posted strong growth mainly driven by existing firms...

The asset base of IFC sector increased by PKR 30.8 billion over the year under review to PKR 109.0 billion mainly due to the growth posed by existing IFCs.

In the wake of significant increase in interest rates and other stresses in macrofinancial conditions such as exchange rate devaluation during CY22, IFCs focused on investments which increased by PKR 10.5 billion to PKR 26.1 billion. Despite the hike in interest rates, the increase in vehicle prices and tightening of prudential standards for banks' auto financing contributed to the rise in auto finance portfolio of IFCs. This partially supported the growth in advances of IFCs, which increased by PKR 8.4 billion to PKR 44.0 billion. Furthermore, as one major IFC started to diversify its operations with an emphasis on expanding its loan business, it diverted some of its lease business towards its loan portfolio. This development contributed to the shift in financing portfolio of the IFCs sector from leasing to loans.

Chart 6.2.8: Classified Assets of IFC Sector



Source: SECP

Barring a couple of firms, the sector in general showed improvement in asset quality indicators, as its classified asset declined and infection ratio lowered to 7.0 percent at end Dec-22 (**Chart 6.2.8**).

Since most of the classified assets of sector were in loss category and accordingly provided for, the sector faced relatively contained risks to solvency from the existing classified portfolio. However, the increase in financing costs and slowdown in economic activity could impair the repayment capacities of borrowers and raise asset quality concerns going forward.

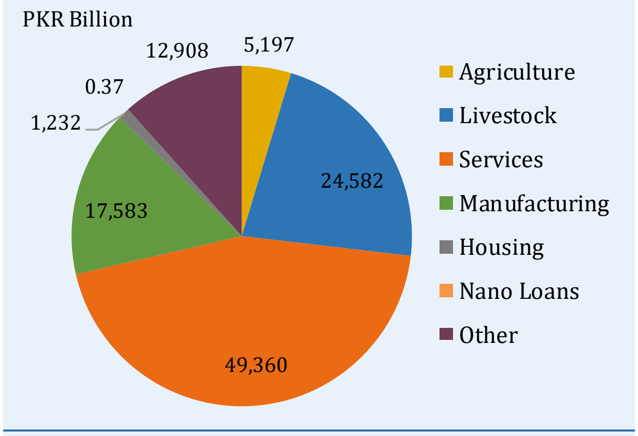
It is important to note that from early 2022, SECP allowed NBFIs to operate as peer-to-peer (P2P) service providers. P2P lending connects borrowers directly to lenders. Here, most of the default risk is assumed by the lenders rather than the NBFIs providing the platform. Usually, the higher interest rates (compared to traditional savings accounts) incentivize lenders to open accounts on P2P lending platforms. Investors and lenders need to remain aware that, globally, the default rates are higher in P2P lending compared to conventional financial institutions' lending options. In addition, borrowers - who may have limited financial literacy - and lenders need to remain vigilant of all fees charged by such platforms.

Recent floods impacted the microcredit portfolio of NBMFCs …

Non-bank microfinance companies (NBMFCs) are the largest sector within lending NBFIs. During the year under review, microcredit loans offered by NBMFCs increased to PKR 108.4 billion in CY22 (PKR 83.1 billion in CY21). The increase in loans was mainly funded by an increase in borrowings from PKR 93.5 billion to PKR 106.6 billion.

In 2022, a large part of the country faced torrential rains and consequent flooding that caused heavy human and economic losses. Since NBMFCs operate in rural areas that were badly hit by flooding, this natural catastrophe adversely affected the lives and livelihood of NBMFCs' borrowers.

Chart 6.2.9: NBMFCs' Gross Loan Portfolio - Jan-23



Source: Pakistan Microfinance Network (PMN)

The exposure of NBMFCs to extreme weather events can also be gauged by the fact that 26.9 percent of the loan portfolio is placed in the livestock and agriculture segments, which are directly affected by torrential rains, flooding, and drought (**Chart 6.2.9**).

According to the UNDP Post Disaster Needs Assessment Report, NPLs were expected to increase by PKR 24.3 billion due to the floods, which would form a significant amount of the overall portfolio. However, the latest data indicated that classified assets of NBMFCs increased by 19.8 percent over H2CY22 – from PKR 2.7 billion in Jun-22 to PKR 3.2 billion in Dec-22, which was below the UNDP estimate. However, estimates suggest that the portfolio could come under significant stress in the coming 1 to 2 years, particularly if inflation remains elevated, eroding the purchasing power of end-consumers. This continued strain could have implications for asset quality and earnings of NBMFC sector in the near term. Accordingly, the subdued outlook and prevailing macrofinancial challenges highlight the need for continual support from NBMFCs' sponsors and financiers.

Interconnectedness between banking and mutual fund industry remained manageable in CY22…

The interconnectedness between the banking sector and mutual funds (which form the largest portion of NBFI sector) exists along different dimensions such as deposits, borrowings and investment in banks' share from the banks' funding perspective, and advances and investments in funds from the banks' asset perspective. While banking sector's investment in mutual funds remained miniscule in terms of its capital and asset base, another aspect of interconnectedness remained significant as bank-owned AMCs/ IAs were managing around 79.5 percent of the total AUM at end CY22. This phenomenon highlights the banking sector's sensitivity to the performance of mutual fund sector especially in terms of reputational implications that banks may face with regard to the soundness and performance of their respective AMCs/ IAs and their managed funds (**Table 6.2.4**).

On the other hand, mutual funds' investments in banking products e.g., deposits and securities also remained significant, indicating the importance of banking sector's performance and stability for the mutual fund sector. On a net basis, the banking sector was a receiver of funds from the AM segment.

In terms of concentration, certain banks featured among the top 20 investors of some mutual funds and this concentration signified that these funds were partially dependent on the performance and business strategy of their respective investing banks as any abrupt redemptions of mutual funds by these banks (e.g., due to liquidity constraints) could have implications for the performance of these funds.

Another form of transmission may be through common customer groups as some firms or business groups which are leading borrowers of banks were among the top 20 unit holders of mutual funds.

Nevertheless, any risks and concerns related to interconnectedness between banks and mutual fund industry remained manageable during the year under review given the banks' ample liquidity cushions and relative asset size.

Table 6.2.4: Asset Management segment's flow of funds & exposure to the banking sector

Description	Dec-20			Dec-21			Dec-22		
	Total Value (i)	Banks share (ii)	Banks share in Total* (iii= ii/i)	Total Value (iv)	Banks share (v)	Banks share in Total* (vi= v/iv)	Total Value (vii)	Banks share (viii)	Banks share in Total* (ix= viii/vii)
	PKR billion		Percent	PKR billion		Percent	PKR billion		Percent
1. Equity of AMCs/ IAs	31.9	17.0	53.36	32.9	17.4	53.00	33.0	18.2	55.38
2. Assets Under Management of AMCs/ IAs	1,334.7	1,026.4	76.90	1,605.5	1,256.7	78.28	1,932.0	1,536.5	79.53
3. Mutual Funds size	985.2	15.5	1.58	1,191.6	21.7	1.82	1,574.2	14.6	0.93
4. Mutual Fund exposure in Financial Institutions	541.0	510.2	94.31	724.4	673.1	92.92	749.3	589.3	78.65
5. Mutual Funds exposure in top 20 equity securities	76.5	9.2	12.07	74.6	9.4	12.54	61.5	5.2	8.44
6. Mutual Funds exposure in top 10 debt securities	20.3	6.0	29.62	20.3	7.5	36.65	63.6	9.4	14.75
7. Top 20 holders of mutual fund units	359.0	205.4	57.22	193.8	13.7	7.08	343.7	27.2	7.91

Source: SECP

*Banks share for the respective head means:

1.Equity of Bank-owned AMCs /IAs

2.Mutual/Pension Funds and Portfolios being managed by bank-owned AMCs /IAs

3.Banks' investments in mutual fund units

4.Mutual Funds' investments in deposits, COD/TDR/COI and money at call/placements with banks

5.Mutual Fund investments in ordinary shares of banks

6.Mutual Funds investments in TFCs/Commercial Paper/Sukuk etc. issued by banks

7.Banks(investment value) in the top 20 holders of mutual fund units

Ongoing stress in macroeconomic environment could have implications for NBFI sector in the near term …

Going forward, stressful macro-financial conditions such as elevated interest rates, slowdown in economic growth, and domestic and geo-political uncertainties could affect the performance and growth prospects of the NBFI sector. The high interest rates and slowdown in economic activities can impact both repayment capacity of borrowers of lending segment as well as demand for further credit. Moreover, NBMFCs could face stress in their asset quality due to floods. On the other hand, these macrofinancial conditions and consequent pressure on earnings of corporate firms may influence the growth dynamics of mutual fund sector with money market and income funds remaining preferred investment avenues.

Chapter 6.3: Insurance and Takaful Companies

Despite building macroeconomic challenges, the insurance industry continued to grow in 2022. The growth was led by the life insurance sector as the implementation of the government's health insurance programs by public life insurer gathered steam. However, the claims ratio for the sector witnessed an increase due to a rise in group claims as well as an increase in surrender claims by individuals. Nevertheless, since life insurers maintain most of their investments in government securities, the resulting higher investment income boosted their profitability. In non-life insurance sector, motor premiums drove the growth in net premiums as the cost of motor vehicles increased drastically during the year. However, torrential rains and flooding, some major fire incidents, and higher cost of repairing fixed assets contributed to the larger increase in claims. Accordingly, financial performance indicators for the non-life sector slightly deteriorated. Going forward, due to the prevailing slowdown in economic activities and stressed macro financial conditions, the growth trajectory in non-life premiums is expected to be uncertain while the growth in the life sector will continue to largely depend on traction in the health insurance programs.

Global insurance industry faced repricing of risks due to macroeconomic stresses and natural catastrophes ...

Economic losses from natural disasters remained high in 2022 (USD 275 billion) while insured losses covered 45 percent of the damages (USD 125 billion).[152]

In addition, claims increased as high inflation increased the cost of repairing buildings, motor vehicles and other fixed assets that are usually covered by insurance. This led to continued rise in premium rates to cover the expenses. However, elevated interest rates augmented the investment income for insurers across the globe.

Pakistan's insurance industry posted growth despite building macroeconomic stresses in CY22 ...

The life insurance and Family Takaful segment continued to dominate the insurance industry of Pakistan[153] in terms of assets and gross premiums.

Despite building macroeconomic pressures characterized by dwindling foreign reserves, stabilization measures, slowdown in economic activity, etc. along with catastrophic floods affecting one-third of the country during the year under review, all segments of the industry continued to expand. This was the result of a combination of general factors affecting the whole insurance industry such as inflation leading to a rise in premium rates and idiosyncratic factors pertaining to the life and family Takaful segment (such as the rise in group claims due to the government's expansion of health insurance programs) and non-life and general Takaful segment. In addition, the low insurance penetration in the country results in no significant effect on the industry's growth despite the macroeconomic pressures (**Table 6.3.1**).

[152] Swiss Re Institute - Sigma No. 1/ 2023 "Natural catastrophes and inflation in 2022: a perfect storm" (https://www.swissre.com/institute/research/sigma-research/sigma-2023-01.html)

[153] The analysis in the chapter is based on the data of 6 life insurers and 24 non-life insurers covering almost 100 percent and 82 percent of the life and non-life insurance sectors' assets, respectively. The analysis also covers two Family Takaful companies, two active General Takaful companies, and sole reinsurer, thus, covering the entire insurance industry. The analysis covers data up to period ending December 31, 2022. Data have been estimated, where necessary.
The financial close for insurers is December of the corresponding year. All growth ratios for flow items are on year-on-year basis.

The asset base of the overall industry increased by 14.8 percent in CY22 to PKR 2,459.9 billion particularly on the back of significant growth in the life insurance sector.

Table 6.3.1: Snapshot of Insurance Industry

Description		Total Assets	Equity	Gross Premium	Net Premium	Net Claims
		PKR million				
Life	Dec-21	1,805,383	34,681	277,793	273,236	175,072
	Dec-22	2,061,062	47,879	359,381	354,389	263,448
Family Takaful	Dec-21	39,384	1,995	12,033	11,478	6,568
	Dec-22	41,246	2,126	12,305	11,713	7,057
Non-Life	Dec-21	245,302	105,284	103,092	50,548	24,591
	Dec-22	286,980	103,401	131,571	60,095	32,945
General Takaful	Dec-21	5,659	1,245	3,252	1,596	1,178
	Dec-22	6,727	1,442	4,207	2,187	1,770
Reinsurance	Dec-21	46,806	13,072	20,994	7,226	3,778
	Dec-22	63,855	14,321	24,271	7,929	4,312

Source: Unaudited/ Audited accounts of Insurers

Gross premiums increased from PKR 417.2 billion in CY21 to PKR 531.7 billion in CY22 with life and family Takaful segment, and non-life and general Takaful segment posting increases of PKR 81.9 billion and PKR 29.4 billion, respectively. Life and family segment was boosted by the increasing outreach of government-sponsored social health insurance programs through a leading public sector insurer that increased health coverage to the low and middle-income strata of society.

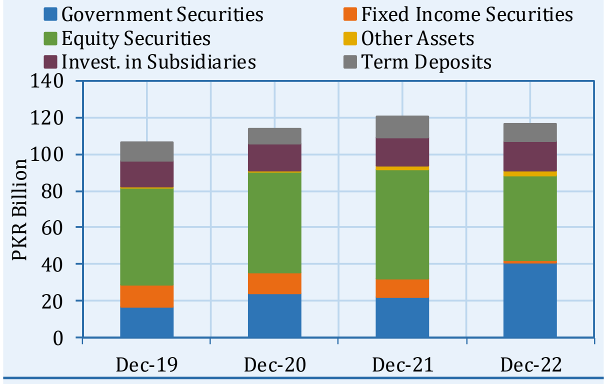
Non-Life Insurance and General Takaful Segment

Asset base of non-life insurers grew on the back of underwriting of new business while they shifted their asset mix from equities to government securities ...

The asset base of the non-life insurance sector increased by 17.0 percent over the year under review to PKR 287.0 billion, mainly on the back of growth in gross premiums which grew by around 28 percent. This growth was also reflected in the increase in provision for unearned premium (on the liabilities side) from PKR 44.0 billion to PKR 55.4 billion over the year. In addition, provision for outstanding claims increased from PKR 40.8 billion to PKR 63.6 billion as the estimated claims expense rose over the year.

With regards to investments, due to hike in interest rates and lackluster performance of capital market, non-life insurers divested part of their holdings in equity stocks and increased their investments in government securities. Accordingly, the share of equities in investments declined from 49.3 percent in CY21 to 39.7 percent in CY22 while the share of government securities rose from 18.3 percent to 34.8 percent (**Chart 6.3.1**).

Chart 6.3.1: Investment portfolio of non-life insurers



Source: Unaudited/ audited accounts of insurers

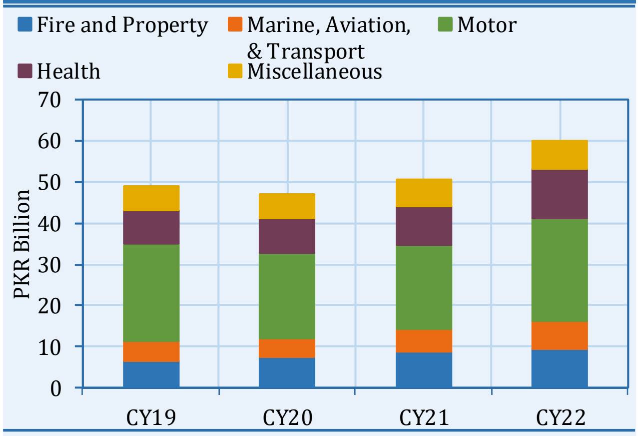
Overall, investments, however, declined slightly by PKR 4.1 billion to PKR 116.6 billion in CY22. This was in part due to the increase in insurance receivables from PKR 25.0 billion to PKR 51.8 billion, limiting the available funds for investments.

While fire and property damage premiums drove the growth in gross premiums, motor and health premiums were the main drivers of growth for net premiums ...

Gross Premiums for the non-life sector posted healthy growth in CY22 mainly on the back of increase in premium for the fire and property damage business segment.

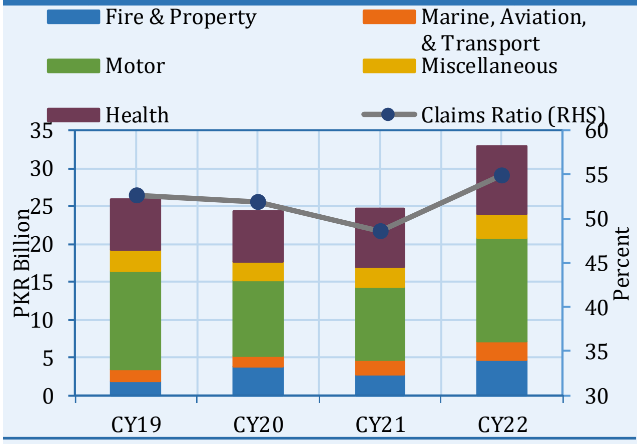
However, a significant portion of premiums was ceded to reinsurers. Accordingly, net premiums only increased by PKR 9.5 billion to PKR 60.1 billion in CY22. Accordingly, premium retention ratio also declined.

Chart 6.3.2: Net Premiums for Non-Life Sector



Source: Unaudited/ audited accounts of insurers

Chart 6.3.3: Net Claims and Claims Ratio



Source: Unaudited/ audited accounts of insurers

This growth in net premiums was mainly driven by motor and health premiums which increased by PKR 4.8 billion and PKR 2.4 billion over the year under review to PKR 25.0 billion and PKR 11.9 billion, respectively. Motor insurance segment continued to dominate the non-life sector with 41.6 percent contribution in net premium. Motor premiums increased partly due to the increase in cost of vehicles and their parts thus increasing the value of insurance coverage as well as premium amounts (**Chart 6.3.2**).

However, net claims increased at a faster pace than premiums ...

As the cost of repairing fixed assets increased worldwide due to inflation and other macroeconomic stresses, so too did the cost of repairing motor vehicles and other fixed assets increased in Pakistan. Overall net claims increased substantially by 34.0 percent to PKR 32.9 billion, as all segments of the non-life business faced increases in claims (**Chart 6.3.3**).

While motor claims increased by 41.5 percent to PKR 13.8 billion in CY22, fire and property damage claims posted a bigger increase of 69.0 percent to PKR 4.7 billion, however, these claims formed a relatively small proportion of overall claims expenses. Besides the prevailing stressed macroeconomic conditions, insurers incurred losses due to torrential monsoon rains and flooding, which disrupted business activities and damaged fixed assets. Moreover, there occurred some major fire loss events in the first half of the year contributing to an increase in claims for the fire and property damage segment. Accordingly, the claims ratio of non-life segment increased over the year.

Therefore, profitability of non-life sector declined due to contraction in underwriting results while investment income also slightly decelerated ...

With the substantial rise in claims expense, along with an increase in management expenses, the underwriting results for the non-life insurance sector declined in CY22 to PKR3.8 billion from PKR 6.0 billion in CY21.

In addition, due to decline in dividend income and revaluation losses on securities, investment income was marginally lower compared to the previous year.

Accordingly, profit before tax of non-life insurers declined to PKR 15.6 billion in CY22 (from PKR 17.8 billion for CY21) and after-tax profit lowered to PKR 10.7 billion (PKR 12.8

billion in CY21). Bottom line indicator of pre-tax ROA came down to 5.9 percent, and after-tax ROE to 10.2 percent (12.6 percent in last year).

Accordingly, key performance indicators for the non-life sector slightly deteriorated …

Due to the stressed macroeconomic conditions and torrential monsoon rains and flooding that disrupted business activities and raised costs, key FSIs of the non-life insurance segment slightly deteriorated (**Table 6.3.2**).

Table 6.3.2: Soundness of Non-Life Insurance

Description	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22*
			Percent		
Capital to Assets	12.6	11.8	10.9	10.6	9.5
Claims Ratio	52.0	52.6	51.8	48.6	54.8
Combined Ratio	88.6	91.0	92.3	87.8	92.7
Premium Retention	54.4	54.0	50.1	49.0	45.7
Return on Assets	6.5	6.6	5.9	7.5	5.9

Source: Unaudited/ audited accounts of insurers.
*Estimated Figures

With the increase in combined ratio, insurers are expected to reprice their products in the coming months.

The pressure on equity prices and high interest rates may also pressurize insurers to recalibrate their investment portfolios further towards short-term government securities.

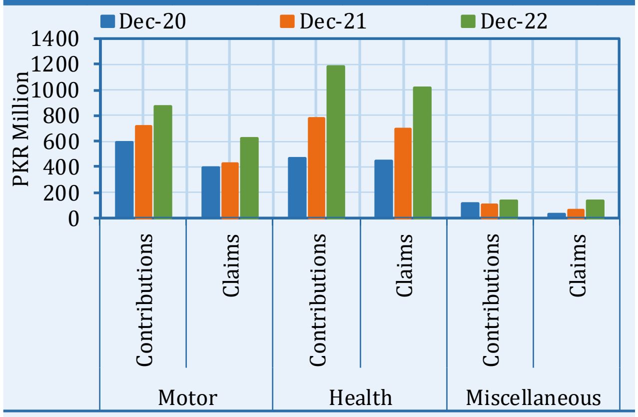
Increasing claims lowered the surplus in the PTF of the DTOs operating in the General Takaful segment …

The two dedicated General Takaful operators (DTOs) increased their asset base by PKR 1.1 billion to PKR 6.7 billion in CY22. However, in terms of gross premium, the DTOs constitute only 3.1 percent of the combined non-life and general Takaful segment.

Profitability for the DTOs increased from PKR 0.16 billion in CY21 to PKR 0.28 billion in CY22 on the back of increased Wakala fee.

Detailed analysis shows that these two DTOs mainly focus on Motor and Health business lines. Their net contributions increased from PKR 1.6 billion to PKR 2.2 billion in CY22, spurred by growth in health contributions. However, net claims also saw an increase of PKR 0.6 billion to PKR 1.8 billion on the back of increasing health claims (**Chart 6.3.4**).

Chart 6.3.4: Net contributions and claims of DTOs in the General Takaful segment



Source: Audited/ unaudited financial statements of Takaful co.

Thus, claims ratio for the DTOs increased from 73.8 percent to 80.9 percent in CY22. Accordingly, the underwriting result for the Participants' Takaful Fund (PTF) declined from PKR 58.8 million in CY21 to PKR 9.3 million in CY22.

Non-life reinsurer posted steady earnings on the back of improved investment income …

While underwriting profit of the non-life reinsurer declined by 5.2 percent to PKR 1.7 billion in CY22, increase in investment income by 36.3 percent to PKR 1.4 billion gave support to the bottom line. Consequently, the reinsurer registered profits of PKR 3.6 billion in CY22 (similar to the previous year).

Life Insurance and Family Takaful Segment

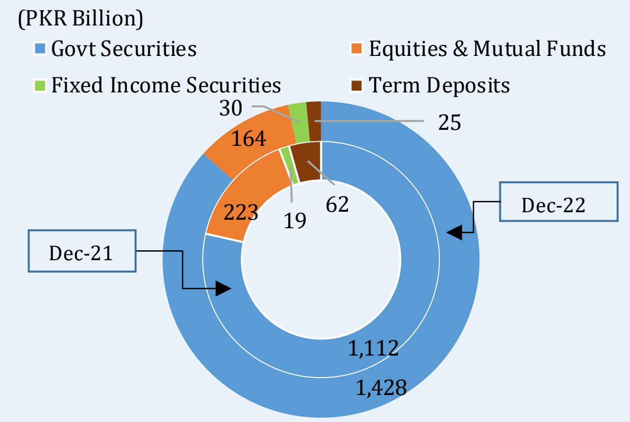
Life insurance sector increased its asset base in CY22 …

Due to its longer-term horizon of business dynamics and investment strategies, life insurance sector remained largely immune from the macroeconomic stresses that prevailed during the year under review. The sector in fact posted marked improvement in operating performance that was well supported by investment income.

The life sector expanded its balance sheet footing by 14.2 percent to PKR 2,061.0 billion. The asset base was supported by growth in business revenues as gross premium and investment income registered significant increases.

Investment portfolio of life insurers increased by 16.4 percent to PKR 1,647.6 billion in CY22. Most of the life sector's investments are in government securities (share of 78.5 percent), that, in the wake of the rise in policy rate during CY22 and lackluster performance of capital market, led to a further increase in preference for government securities. Accordingly, the growth in these securities remained pronounced i.e. PKR 316.5 billion or 28.5 percent while investment in equities and mutual funds declined by PKR 58.8 billion or 26.3 percent (**Chart 6.3.5**).

Chart 6.3.5: Life Sector Investments



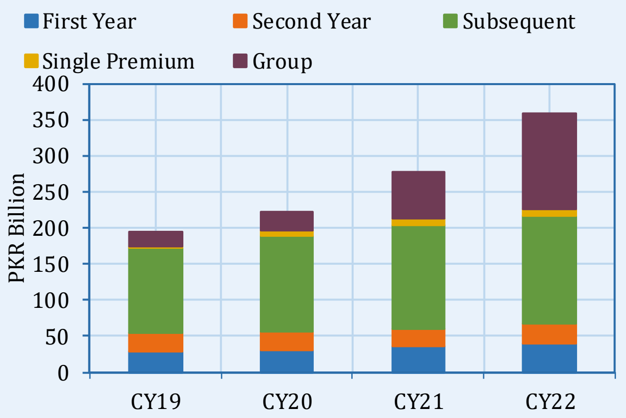
Source: Unaudited/ audited accounts of insurers

Gross premium of life sector posted strong growth mainly on the back of group premiums ...

Gross premium of life-insurance sector increased by PKR 81.6 billion to PKR 359.4 billion. Group premium, which rose by PKR 68.6 billion in CY22, contributed to the overall increase. Their growth, in turn, was supported by the implementation of government's national- and provincial-level health insurance programs through the public life insurer in recent years.

Besides growth in group premiums, the first year, second year, and subsequent year premiums of individual life policies also increased during CY22. However, there was deceleration in the growth of first year premiums (6.1 percent growth for CY22 against 20.3 percent increase in CY21) indicating that life insurers slightly struggled to underwrite new individual life policies possibly due to the stressed macroeconomic conditions, as inflation and slowdown in economic activities affected the purchasing power of households (**Chart 6.3.6**).

Chart 6.3.6: Gross Premiums for Life Sector



Source: Unaudited/ audited accounts of insurers

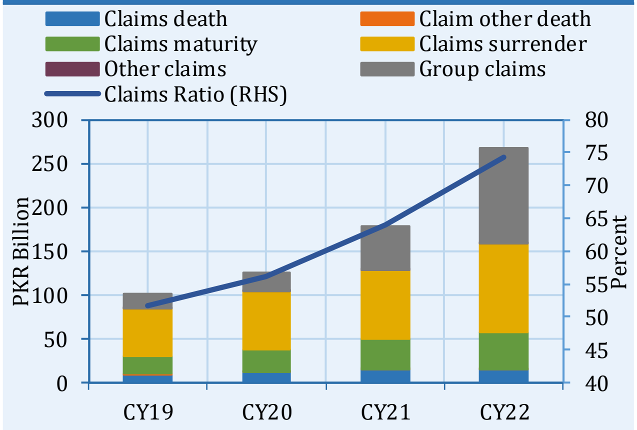
Income from core business activity of life sector slightly deteriorated due to strong increase in group claims and higher surrenders in individual policies....

Since the public health insurance scheme mainly provides health coverage to low-income segments of society, these segments increasingly utilized this coverage to seek medical care which was generally not freely available and accessible to them before the scheme. Accordingly, group claims for the life sector increased from PKR 50.5 billion in CY21 to PKR 108.6 billion in CY22.

Moreover, there was a marked increase (i.e. 27.3 percent) in surrender claims which rose to PKR 100.6 billion during the year under review.

The increase in surrender claims can be ascribed to pressures on consumers' disposable income that led to higher surrenders of individual policies by policy holders for unlocking their funds for personal uses. Besides, some consumers also surrendered their policies to tap more attractive returns on new policies and other avenues in the light of the hike in policy rate (**Chart 6.3.7**).

Chart 6.3.7: Gross Claims for Life Sector



Source: Unaudited/ audited accounts of insurers

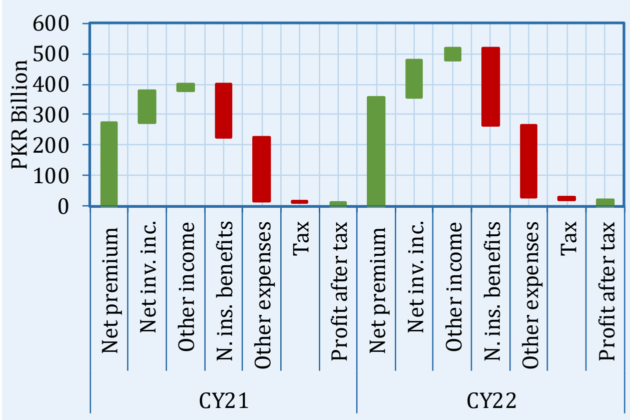
Overall, gross claims of life-insurers increased to PKR 266.9 billion during CY22 (PKR 178.9 billion in CY21), while claims ratio increased from 64.1 percent to 74.3 percent in CY22. Accordingly, premiums net of claims and acquisition expenses (at PKR 56.4 billion) for CY22 remained 5.5 percent lower compared to previous year's level.

However, profitability of life sector marked significant improvement on the back of investment income ...

While the increase in net premium revenue was neutralized by the increase in claims expense, the increase in investment income in CY22 boosted the bottom line of life sector (**Chart 6.3.8**).

As the sector has high reliance on government securities for generating consistent streams of income, it significantly benefited from increase in interest rates. Income on government securities increased to PKR 135.3 billon during CY22 (31.4 percent higher than the last year's income), which augmented the overall growth in investment income. On the other hand, there was an increase in fair value losses on financial assets, however, it had only a slight impact on overall investment income, as the life insurers tend to hold major part of investments till maturity in line with their long-term perspective in investment strategy.

Chart 6.3.8: Earnings Components for Life Insurance



Source: Audited/ unaudited financial statements of insurers

Accordingly, pre-tax profits of the life sector increased to PKR 27.4 billion in CY22 (from PKR 13.4 billion in CY21), and bottom line indicators of ROA and ROE posted marked improvements.

Capital and liquidity position of life sector improved over the year...

With the growth in earnings, capital to total asset ratio improved over the year under review. In the backdrop of inherent inverted-production cycle[154] and long-term horizon of life insurance business along with the strategic decision of investing around 70 percent of assets in risk-free government securities, life sector faces contained liquidity risk as well as solvency challenges from fall in value of assets (**Table 6.3.3**).

[154] Policyholders pay premiums upfront, and contractual payments are generally made by insurer only if and when an insured event has occurred.

Table 6.3.3: Performance Indicators of Life Insurers					
Description	CY18	CY19	CY20	CY21	CY22
			Percent		
Claims Ratio	52.2	51.8	56.1	64.1	74.3
Expense Ratio	26.3	26.0	22.9	21.6	18.6
Equity to Assets	2.0	1.9	2.1	1.9	2.3
ROA pre tax	0.7	0.6	0.8	0.8	1.4

Source: Unaudited/ audited accounts of insurers

Gross contributions of DTOs in the Family Takaful155 segment inched up …

There are three Dedicated Takaful Operators (DTOs)[156] along with seven Window Takaful Operators (WTOs) in the family Takaful segment.

The DTOs contribute around 3.3 percent of the combined premiums and contributions of the life and Family Takaful segments.

The DTOs increased their asset base by 4.7 percent to PKR 41.2 billion in CY22 - compared to 14.2 percent overall growth in family Takaful and life insurance segment which was, however, significantly supported by pickup in business of the public life insurer due to the government's public health insurance schemes.

Gross contributions of DTOs segment inched up by 2.3 percent to PKR 12.3 billion during CY22, and net contribution revenues posted concomitant growth. Detailed analysis shows that there was a reduction of PKR 0.3 billion in individual contributions, particularly in first year contributions. Overall, gross contributions of the segment were supported by an increase in group contributions of PKR 0.5 billion.

On the other hand, gross claims increased by PKR 0.6 billion to PKR 7.5 billion in CY22, on the back of increases in surrender and death claims.

However, due to an increase in net investment income in CY22, the participants' Takaful fund (PTF) posted an increase in in surplus during CY22 (**Table 6.3.4**).

Table 6.3.4: Participants' Takaful Fund of DTOs in Family Takaful segment			
	Dec-20	Dec-21	Dec-22
		PKR Million	
Net Contribution revenue	6,899.1	8,688.6	9,083.7
Investment Income	3,642.2	239.4	676.1
Surplus Income	141.0	285.6	199.0
Net Income	**10,682.4**	**9,213.6**	**9,958.7**
Net Takaful Benefit	(5,212.9)	(6,774.0)	(7,639.3)
Change in Takaful liabilities	(4,545.1)	(1,672.3)	(1,343.1)
Other Expenses	(610.3)	(681.0)	(709.0)
Surplus/ (Deficit)	**314.0**	**86.3**	**267.3**

Source: Unaudited/ audited accounts of DTOs

Outlook

Going forward, insurance sector's performance is contingent upon emerging macroeconomic conditions, geopolitical developments and firms' ability to withstand attendant shocks …

Globally, it is expected that there will be premium rate hardening in 2023 in response to the high inflation, geopolitical tensions, natural catastrophe and financial market losses of 2022.

These global insurance developments will lead to increases in reinsurance rates offered by international re/insurers which, coupled with the exchange rate depreciation, may lead to increase in reinsurance expense for insurers in EMDEs, particularly non-life insurers that have extensive reinsurance arrangements with international reinsurers. The rate hardening along with the elevated policy rate is expected to influence insurers' financial performance in the near term. Global premiums are expected to

[155] This section covers the two full-fledged Family Takaful companies only. The information pertaining to the Window Takaful Operators (WTOs) of life insurers has been discussed on a consolidated basis under the life section.

[156] One DTO has recently entered the family Takaful segment and is not covered in this chapter due to non-availability of financials.

grow at 2.1 percent in real terms (on average) in 2023.[157]

Given that non-life insurance is correlated with economic growth[158] and latest data indicating that Pakistan's economy will significantly slow down in 2023, accordingly the growth trajectory of non-life premiums in Pakistan could face pressures. However, if inflation remains elevated, then there could further rate hardening leading to an uncertain growth trajectory for non-life premiums. Furthermore, in the backdrop of elevated interest rates, non-life insurers may also consider recalibrating their investment portfolios in order to pad the bottom line.

Life insurance business, with a longer time horizon, is expected to remain relatively immune to the prevailing macroeconomic pressures. The growth in this sector is now partially dependent on the continuity of the government's health insurance programs.

[157] Swiss Re Institute - Sigma No. 6/ 2022 "Economic stress reprices risk: global economic and insurance market outlook 2023/24" (https://www.swissre.com/institute/research/sigma-research/sigma-2022-06.html)

[158] Gine, X., Barboza Ribeiro, B., & Wrede, P. F. W. (2019). Beyond the S-curve: Insurance penetration, institutional quality and financial market development. *World Bank Policy Research Working Paper, (8925)*.
For details, please visit http://documents.worldbank.org/curated/en/272881561663514250/Beyond-the-S-curve-Insurance-Penetration-Institutional-Quality-and-Financial-Market-Development

Section C: Performance and Risk Analysis of Other Sectors

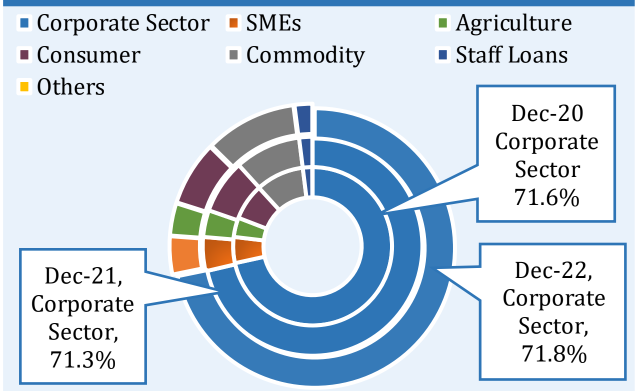
Chapter 7: The Corporate Sector

In the face of building macroeconomic challenges, the overall financial standing of the non-financial sector remained resilient during CY22. Profitability of the sector was lower than last year as increase in input costs and financial expenses neutralized the growth in sales while tax charges also increased. The tightening of monetary policy and stressed economic conditions affected the debt servicing capacity of corporate sector. However, large firms in general continued to operate smoothly and service their obligations. Interest coverage ratio, despite significant decline, remained in comfortable range, and liquidity and overall solvency indicators remained steady. The disaggregated analysis highlighted that the chemicals and pharmaceutical, and petroleum exploration sectors posted growth in sales while the sales of textile, manufacturing and automobile sectors experienced notable decline. Investors' perception about the value and prospects of large firms oscillated over the year in line with the ongoing domestic and global macroeconomic developments. Going forward, the corporate sector's outlook rests on the future geopolitical and domestic macroeconomic conditions.

Non-financial corporate sector's performance remained crucial for financial stability ...

Large corporate firms accounted for 71.8 percent of the banking sector's total loan portfolio. Therefore, the performance and soundness of the large firms has great significance for financial stability in the economy (**Chart 7.1**). The following paragraphs assess the financial performance and standing of large corporate firms.

Chart 7.1: Segment wise distribution of domestic advances, as of end December 2020-22



Source: SBP

The corporate sector's financial standing generally remained steady in CY22, though leading performance indicators showed signs of slackness amid challenging macroeconomic environment ...

CY22 was marked by a significant deterioration in the business environment for non-financial corporate sector as the macroeconomic challenges, which started to build up in CY21, further intensified over the period. A number of global and domestic developments that compounded the challenges include Russia-Ukraine war, domestic political instability, unprecedented flooding in the country, and tightening of monetary policy by AEs (**see Chapter 1**). Different stabilization measures that were introduced in fiscal, monetary and macro-prudential policy spheres to mitigate economic imbalances and risks to economic stability also slowed down business activities in the economy.

Accordingly, growth in LSM index significantly decelerated in H2CY22, and average growth for CY22 remained significantly lower than last year. Moreover, Business Confidence Index persistently declined and remained below the benchmark, reflecting business sector's meek expectations about the rebound in production and economic activity.

In the face of these challenges, some key indicators of corporate sector's financial performance showed signs of slackness during CY22. Bottom line (after tax profit) was 12.8 percent lower than last year's level due to increase in debt servicing costs and taxation charges. However, the sector by and large remained stable and continued to serve its financial obligations. Strong operating performance during CY21 may have supported the financial cushion and resilience of the sector.

Growth in the asset base of the corporate sector accelerated during CY22 due to strong increase in current assets …

The top 100 selected firms experienced significant growth of 17.0 percent (YoY) in their asset base by end CY22, as compared to 13.2 percent in CY21 (**Table 7.1**). This growth can be attributed to increased cost of inventory and other inputs in the wake of high inflation and investments in long-term assets such as properties, plants, and equipment.

To finance the expanding base of current asset, the firms relied on short-term borrowing and efficient cash flow management. Additionally, long-term borrowing also increased to finance the firms' growing capital expenditures. This growth in long-term borrowings was also augmented by SBP's refinance schemes e.g., LTFF and TERF for long-term investments in capital goods.

Overall, the strong growth in the asset base of these top 100 selected firms in CY22 reflects their ability to adapt to changing market conditions and make strategic investments in their future growth. Moreover, firms' funding strategy remained prudent as they continued to finance the growth in long-term assets with concomitant long-term funding (i.e. capital + long-term borrowings) and current ratio over the years remained steady, indicating that firms did not rely on short-term borrowing to finance long-term assets.

Table 7.1: Excerpt Financial Statements of PSX Listed Companies and Ratio Analysis

	Q4 CY20	Q1 CY21	Q3 CY21	Q4 CY21	Q1 CY22	Q3 CY22	Q4 CY22	*Growth YoY*
	PKR Billions							*Percent*
Balance Sheet								
Non-Current Assets	3,767	3,763	3,748	3,824	3,915	4,344	4,369	14.2
Current Assets	4,034	4,262	4,699	5,007	5,401	6,146	5,963	19.1
Total Assets	7,802	8,025	8,446	8,831	9,316	10,491	10,332	17.0
Shareholders' Equity	3,621	3,726	4,005	4,131	4,304	4,593	4,624	11.9
Non-Current Liabilities	1,341	1,303	1,162	1,186	1,220	1,457	1,432	20.7
Current Liabilities	2,840	2,996	3,280	3,513	3,791	4,441	4,276	21.7
Total Equity & Liabilities	7,802	8,025	8,446	8,831	9,316	10,491	10,332	17.0
Income Statement								
Sales	1,565	1,650	2,085	2,272	2,401	2,933	2,790	22.8
Cost of sales	1,261	1,302	1,708	1,840	1,942	2,493	2,384	29.6
Gross profit / (loss)	303	348	377	432	459	441	406	(6.0)
General, admin. & other expenses	114	119	130	150	136	168	142	(5.4)
Other income / (loss)	54	44	66	45	74	89	69	52.8
EBIT	244	273	313	327	397	361	332	1.7
Financial expenses	31	31	31	34	41	72	63	81.9
Profit / (loss) before taxation	213	242	281	292	356	289	270	(7.7)
Tax expenses	52	63	76	79	96	105	84	6.1
Profit / (loss) after tax	161	178	205	213	260	184	186	(12.8)
Financial Ratios								
Gross Profit Margin (%)	19.4	21.1	18.1	19.0	19.1	15.0	14.6	
Net Profit Margin (%)	10.3	10.8	9.8	9.4	10.8	6.3	6.7	
Return on Equity (%)	17.7	19.1	20.5	20.6	24.2	16.0	16.1	
Return on Assets (%)	8.2	8.9	9.7	9.7	11.2	7.0	7.2	
Current Ratio (units)	1.4	1.4	1.4	1.4	1.4	1.4	1.4	
Asset Turnover (%)	80.2	82.2	98.7	102.9	103.1	111.8	108.0	
LT Capital to Total Assets(%)	63.6	62.7	61.2	60.2	59.3	57.7	58.6	
Debt Equity Ratio (units)	1.2	1.2	1.1	1.1	1.2	1.3	1.2	
Interest Coverage Ratio (units)	7.8	8.8	10.0	9.5	9.7	5.0	5.3	

Source: SBP

Earnings slightly declined as promising growth in sales was more than off-set by increase in cost of sales, financing costs, and surge in tax charges….

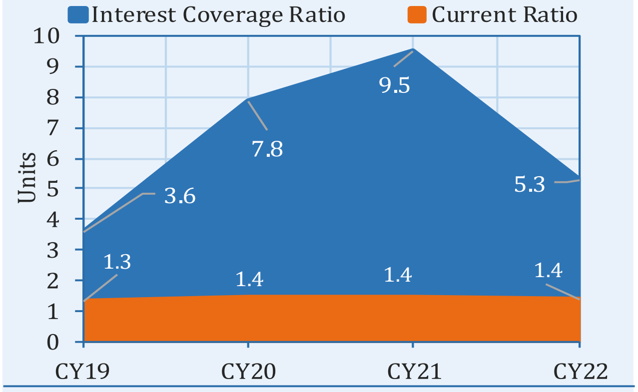
After tax profit of select firms for Q4CY22 was 12.8 percent lower than the corresponding period of last year – compared to 32.8 percent YoY growth in profits for Q4CY21. Although, the corporate sector posted impressive growth in sales and operating efficiency in terms of asset-turnover ratio, pre-tax profit remained 7.7 percent lower than last year's level due to stronger growth in cost of sales and significant surge in financing costs. Significant increase in taxation charges further pushed down the after tax profit, as a result after tax ROE declined to 16.1 percent in Q4CY22 from 20.6 percent in Q4CY21.

An extended DuPont analysis revealed that the downward pressure on ROE came from rise in tax rates and input and financing costs over the year. On the other hand, the efficient usage of assets, along with increase in leveraging buttressed the ROE (**Table 7.2**).

Table 7.2: Extended DuPont Analysis	Dec-19	Dec-20	Dec-21	Dec-22
Tax Retention Rate (A)	0.62	0.76	0.73	0.69
Interest Burden (B)	0.72	0.87	0.89	0.81
Operating Profit Margin (C)	0.12	0.16	0.14	0.12
Asset Use Efficiency (D)	0.85	0.80	1.03	1.08
Financial Leverage (E)	2.23	2.15	2.14	2.23
Return on Equity (ROE) % (AxBxCxDxE)	**9.77**	**17.73**	**20.64**	**16.07**

Source: SBP

Chart 7.2: Key Financial Indicators - Debt Repayment Capacity and Liquidity



Source: SBP

Liquidity indicators remained steady …

Despite relying heavily on short-term borrowing, the sector managed to maintain a stable liquidity level, as evidenced by its current ratio (**Chart 7.2**). This was accomplished by increasing inventories and short-term investments in tandem with the growth of short-term liabilities. The ability to maintain a stable current ratio during economic headwinds is a testament to effective cash flow management, which has the potential to support the financial position of the corporate sector.

However, indicators of debt repayment capacity came under pressure due to increase in financing cost in the wake of monetary tightening…

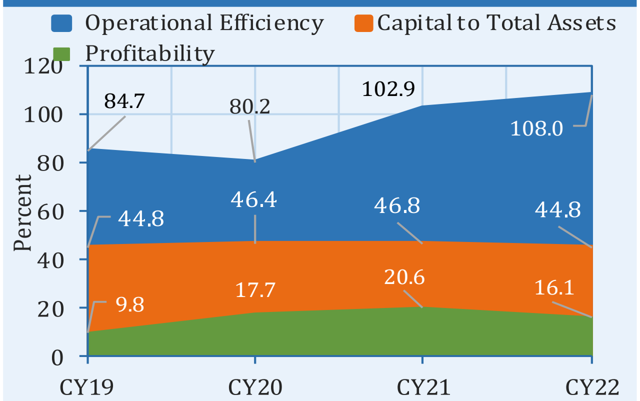
The corporate sector's debt repayment capacity in terms of interest coverage ratio experienced a sharp reversal as ratio of select firms dropped from 9.5 times in CY21 to 5.3 times at end CY22 (**Chart 7.2**). Although Earnings before Interest and Taxes (EBIT) remained stable, the cost of financing almost doubled as the interest rates significantly hiked. However, the interest coverage ratio remains within reasonable bounds even under higher interest rate environment.

Solvency indicators showed slight slackness, however overall solvency position in general remained steady …

The solvency indicators of select firms showed some signs of weakening as compared to their levels in CY21. The financial leverage slightly increased as the proportion of shareholder's equity in asset base slightly declined to 44.8 percent by end CY22 (46.8 percent in CY21) (**Chart 7.3**). In addition, the debt-to-equity and debt-to-capital employed ratios increased slightly.

On the other hand, the corporate sector was able to post adequate operating performance and generate sufficient revenues to meet its financial obligations. However, it is important for the firms to proactively monitor and manage their operations and solvency position in face of stressed macroeconomic conditions.

Chart 7.3: Key Financial Indicators - Profitability, Capital to Total Assets and Operational Efficiency

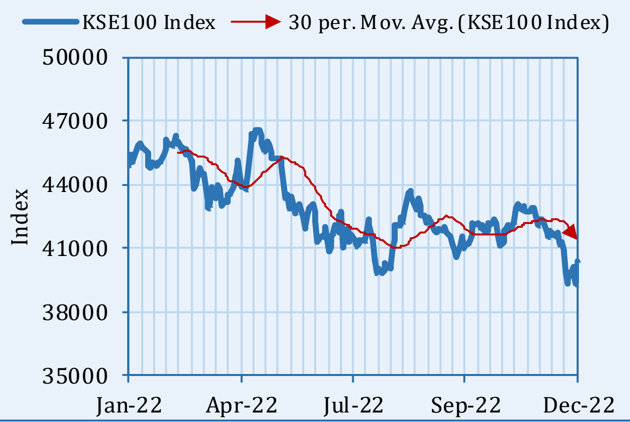


Source: SBP

With mixed market sentiments, the KSE-100 index closed below the CY21 level...

The KSE-100 index is the leading indicator of market sentiment towards the corporate sector, in terms of both its present performance and future prospects. In CY22, the index closed at 40,420 points – 9.4 percent lower level than previous year. Sectoral analysis shows that, with the exception of two, all other sectors contributed to the index's decline (**Chart 7.4**).[159]

Chart 7.4: KSE-100 Index during CY22



Source: PSX and SBP

Throughout the year, the KSE-100 index experienced higher volatility due to a variety of factors, including rising global commodity prices, higher inflation, current account pressure, monetary tightening, political dynamics, uncertainties surrounding the revival of IMF program, and the reclassification of PSX from emerging market to frontier market index in November 2021 by Morgan Stanley Capital International (MSCI). These issues caused uncertainty among investors, leading many to shift their investments toward fixed-income assets.

Textile Sector experienced diminishing sales, however, exports sales improved ...

The textile sector continued to be the largest borrower of the banking sector's loans and a leading contributor in the economy of Pakistan. During the last year, the textile sector posted a significant rebound in its performance backed by effective management of the pandemic and supportive government policies. However, during CY22 the sector could not maintain its momentum in the wake of growing macroeconomic challenges and damages caused by the floods during 2022.[160]

During CY22, the sales of select firms in textile sector declined by 5.2 percent (YoY) as compared to growth of 48.5 percent in last year. Moderation in sales performance was also translated onto the sector's overall profitability, which declined by 81.6 percent (YoY basis). With diminishing profits, the debt repayment capacity (interest coverage ratio) dropped to 1.9 times from 6.0 times at end CY21. Being the leading borrower of banking sector loans, the performance of the textile sector holds significance for financial stability. Positively, by the end of CY22, the infection ratio of banks' loans to textile sector declined to 8.1 percent as compared to last year's 8.7 percent (**Chart 7.5**).

[159] Sugar and Synthetic sector generated positive return during CY22.

[160] The State of Pakistan's Economy – Second Quarterly Report, 2021-2022.

Chart 7.5a: Sector-wise NPLs Ratio

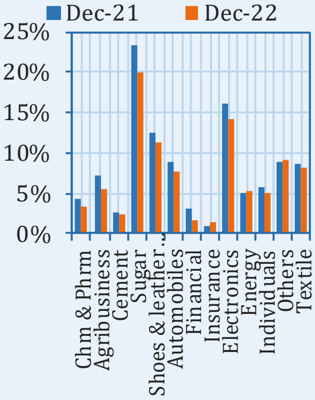
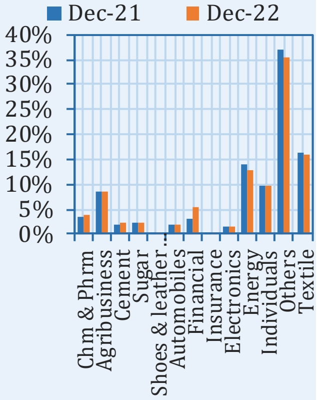


Chart 7.5b: Sector-wise Share in Bank Loans



Source: SBP

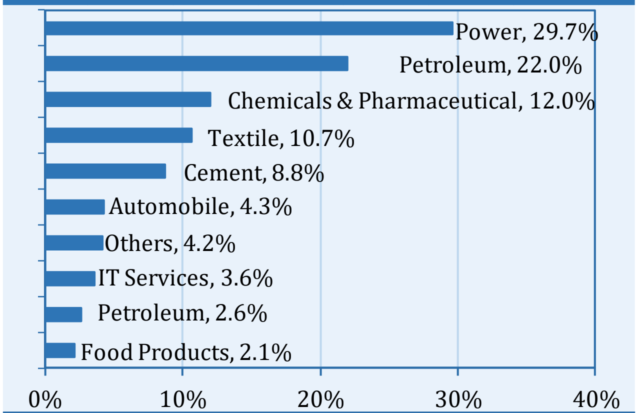
Textile exports posted notable recovery as global demand for textile intermediaries (cotton fabric and yarn) gained momentum. In addition to the price impact supported by PKR depreciation, higher export quantum was also realized because of capacity expansion in the textile industry. This was partly supported by conducive government policies along with SBP's concessionary refinance schemes for fixed investment –LTFF and TERF.[161] However, the decision to link the concessionary mark rates of LTFF and Export Finance Scheme (EFS) with the policy rate might put pressure on operating performance especially when the exports are already facing contractionary pressures.

Power Sector continued to face the issue of mounting circular debt...

The power sector, which includes power producers and exploration companies, remained the dominant industry in terms of assets among the firms selected for this analysis (**Chart 7.6**). Additionally, the power sector was the second largest user of banks' loans, trailing only behind the textile sector. The sector was able to generate high-profit margins due to increased retail prices and inventory buildup. Despite this, the issue of rising circular debt persisted, with the debt reaching PKR 2.3 trillion by the end of June 2022.[162]

Rising and persistently high levels of circular debt put significant cash flow pressure on the sector and burdened its liquidity position as well as operating performance due to increase in financing cost on borrowings, which were obtained for meeting funding gaps created by the stuck up recoveries.

Chart 7.6: Share in total assets of selected 100 firms CY22



Source: PSX

Petroleum sector's performance showed mixed trend, driven by unique dynamics of exploration and marketing companies ....

The petroleum sector comprises firms involved in exploration and marketing of oil and gas. In case of exploration companies, increase in international oil prices and exchange rate depreciation augmented the sales of the sector. Higher investments in exploration activities led to the discovery of new gas/ condensate reserves, which bodes well for future earnings of the sector[163]. The implementation of the weighted average cost of gas (WACOG) was also a crucial development, as it may help to alleviate the issue of circular debt that previously resulted in liquidity constraints for the sector.

For oil and gas marketing companies, the escalating conflict between Russia and Ukraine

161 The State of Pakistan Economy – First Quarterly Report, 2021-22.
162 NEPRA – State of Industry Report, 2022.
163 Mari Petroleum Company Ltd – Press release dated 01-06-2022. For details, please visit https://mpcl.com.pk/discoveries/

disrupted the global supply chain and caused energy prices to surge. This resulted in periods of escalation and de-escalation between the two countries, leading to volatility in energy prices and possible inventory losses for the sector.

On the domestic front, lower automobile sales and inflationary pressures, caused by exchange rate depreciation and widespread flooding, affected the demand for petroleum products, while tightening in monetary policy raised the financing cost.

Cement sector's performance remained overshadowed by declining aggregate demand…

The cement sector struggled to maintain its growth momentum as local sales contracted by 15.1 percent (YoY) during CY22 as compared to 0.9 percent growth during the corresponding period of the last year.[164] In the domestic market, cement producers faced headwinds in the form of rising cost of inputs (primarily coal), exchange rate depreciation, lower Public Sector Development Program (PSDP) expenditures, and higher cost of financing.

Cement exports, on the other hand, faced a major setback as sales declined by 49.0 percent (YoY) during CY22. This can be attributed to decline in clinker exports, sharp increase in shipping freight costs, and reduced exports to Afghanistan due to disruption in the country's construction activities.

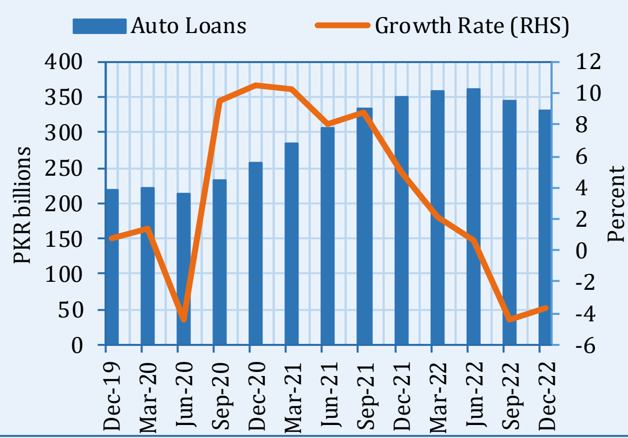
Automobile Sector faced significant headwinds …

The automobile industry in Pakistan heavily relies on imported engines and components as well as parts and other accessories of vehicles. However, in CY22, the sector experienced a dismal performance, with sales plunging by 18.3 percent.[165] This can be attributed to vulnerabilities emerging from the current account deficit as well as the stabilization measures on the fiscal, monetary and macro-prudential policy fronts. These measures contracted the imports and thus adversely affected the performance of the sector – also highlighting the need on the part of the sector to enhance the deletion, which will also contribute towards sustainability and resilience of its operations against any external account pressures.

While the decline in sales volume was modest during the first half of CY22, the second half witnessed significant decline of 44.3 percent. One of the major reasons for this was the introduction of an import ban, inter alia, on completely built unit (CBU) vehicles by the government of Pakistan to curb the import bill and ease pressures on external account as well as achieve PKR rupee parity against the US dollar.[166] In addition, import restrictions on completely knocked down (CKD) units were also imposed, which led to plant closures and delays in delivery times.

In the face of uncertain economic conditions, automobile assemblers closed down advance bookings and also announced multiple price hikes in order to offset overhead costs. This price impact on consumers greatly affected the demand for automobiles; this, along with the imposition of the macroprudential measures led to a decline in auto loans during CY22 (**Chart 7.7**).

Chart 7.7: Auto Loans and its growth rate



Source: SBP

[164] Source: All Pakistan Cement Manufacturers Association.
[165] Data is taken from Pakistan Automotive Manufacturers Association.
[166] Source: S.R.O 598(I)/2022, Ministry of Commerce.

Reversal in investors' sentiments and operating performance led to fall in firms' market capitalization and consequent rise in average probability of default indicators, which however remained within manageable range ...

In CY22, the weighted average 1-year probability of default (PD) deteriorated to 0.6 percent from 0.36 percent in CY21 (**Chart 7.8**).[167] During the first half of CY22, the 1-year PD slightly rose to 0.45 percent by the end of June 2022. Subsequently, operating performance of firms was unfavorably affected by building macroeconomic challenges that also impacted investors' sentiments. Decline in investors' confidence led to increased volatility and fall in stock prices that reduced the market value of listed firms' equity and thus led to rise in average PD.

Chart 7.8: Weighted avg 1 year PD of Corporate Sector

Source: Bloomberg, SBP

In the third quarter of CY22, market sentiments improved as the IMF concluded its combined seventh and eighth reviews under the EFF for Pakistan and released USD 1.1 billion tranche to ease the adverse external conditions.[168] However, by the end of CY22, the average PD again experienced a sharp reversal due to change in investors' sentiments which were dampened by political instability, re-emergence of macroeconomic imbalances, and consequent additional stabilization measures, such as monetary tightening and LC restrictions.

While the average PD over the year inched up closer to the levels that were observed during early pandemic period, its levels are still within comfortable bounds and do not pose a significant default risk to lenders as firms continue to post steady earnings and attractive price earnings (P/E) multiples present the prospects of rise in share prices.

However, banking sector's leading borrowing firms demonstrated strong financial standing and performance...

Given that a bank's financial soundness is significantly influenced by the performance of its large borrowing firms and some of these firms and their business groups have systemic importance for the entire banking sector, an assessment of banking sector's top 30 borrower groups (along with their 231 identified firms) was made. These identified firms together account for around 21.3 percent of the banks and financial institution's combined loan portfolio.

In the current year, CY22, the top borrowing groups demonstrated steady financial performance and continued to show adequate debt repayment capacity. Further, banks in general continued to reflect preference for better rated firms. (**Box 7.1**).

Credit worthiness of large firms in terms of credit rating also continued to show steady debt servicing capacity and resilience ....

It has been observed that firms in Pakistan tend to rely on bank financing vis-à-vis capital market funding due to several structural issues in the capital markets. Credit rating is one of the key requirements for a firm to issue capital market

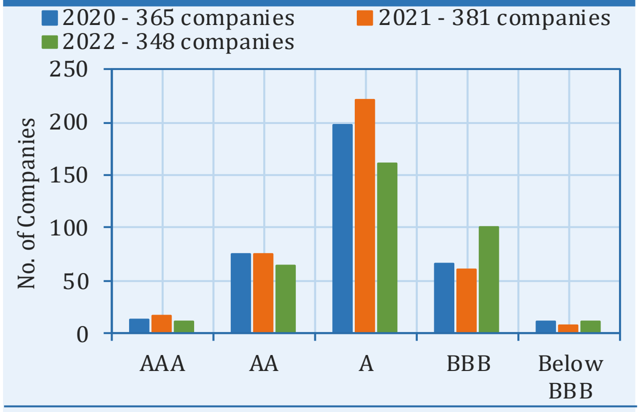
[167] The PD (1 Year PD) demonstrates firms' credit risk and ability to honor short-term obligations. The PD is calculated based on Merton Model, which uses value of equity and volatility in stock prices to measure default probability
[168] International Monetary Fund. (2022). IMF Staff Country Reports. Country Report No. 2022/288. *Washington, April*. For details, please visit https://www.imf.org/en/Publications/CR/Issues/2022/09/01/Pakistan-Seventh-and-Eighth-Reviews-of-the-Extended-Arrangement-under-the-Extended-Fund-522800

instruments through public offering, as it is also considered a good marker of the firm's credit worthiness.[169]

By the end CY22, there were around 183,744 companies registered with SECP. Of these public limited companies, 531 were listed on PSX[170].

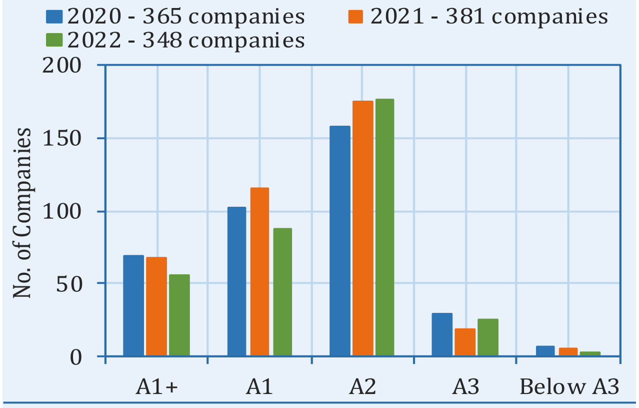
An analysis of long-term credit ratings of firms showed that the credit worthiness of firms in general remained steady as most firms were in comfortable ranges of investment grade ratings. The majority of the companies were rated A (i.e. 46.3 percent of the companies), followed by BBB category and AA category (**Chart 7.9**). As for short-term ratings, about 92 percent of firms held an A2 or better rating, indicating satisfactory capacity to meet their short-term financial obligations (**Chart 7.10**).[171] This rating scenario suggests that most of the large firms in Pakistan have the potential to access long and short-term financing from capital market at favorable costs, to finance their capital expenditures and operating activities.

Chart 7.9: Long-term Ratings of Companies in CY20, CY21 & CY22



Source: PACRA

Chart 7.10: Short-term Ratings of Companies in CY20, CY21 & CY22



Source: PACRA

Corporate sector's outlook remains contingent on the ongoing political and macroeconomic landscape…

The corporate sector faced significant challenges in CY22 due to emergence of global and domestic macroeconomic challenges that were further compounded by geopolitical tension in Eastern Europe and domestic political uncertainty. The government had responded with stabilization measures and current account deficit had reduced significantly in recent quarters. However, inflationary pressures have intensified and uncertainties prevail about the macroeconomic conditions. All these factors make the operating environment quite challenging for businesses.

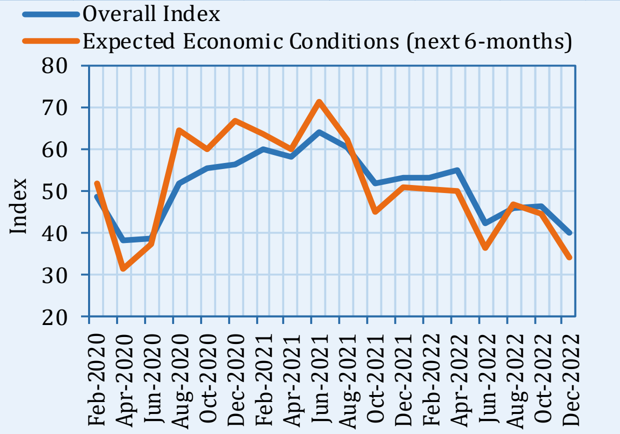
Looking ahead, businesses do not expect these conditions to improve over the first half of CY23 (**Chart 7.11**). Nevertheless, large firms have sufficient liquidity and strong financial cushions to finance their operations while also meeting their financial obligations to financial institutions.

[169] In order to facilitate the growth of capital market and improve corporate governance regime, SBP aims to encourage the rating culture. Along with other tools, SBP incentivizes the large firms to get themselves rated by applying higher capital charge on banks' exposures on unrated firm whose total exposure exceeds PKR 3 billion).

[170] PSX 5-year Progress Report.

[171] PACRA rating of companies. For details, please visit https://www.pacra.com/rating_resources/1, accessed on 26-03-2023.

Chart 7.11: Business Confidence Index



Source: Business Confidence Survey, SBP

Box 7.1: Financial Performance and Soundness of Top Borrowing Groups of the Banking Sector

Introduction

Private sector corporate firms are a major user of banks credit in the Pakistan's economy. The corporate segment uses over 71 percent of banks' total loans and advances. Many of these firms are also part of business conglomerates thus adding to the credit concentration risk for banks. For this reason, SBP has set concentration limits on banks' exposure to single borrower, borrowing group, related party exposures, as well as aggregate limit on large exposures through its prudential regulations. Due to the large size of exposures and borrowing from multiple banks, any decline in financial standing and solvency of large corporate borrowers and borrowing groups may have systemic implications for the banking sector. Therefore, sound financial health and stable performance of large borrowers and borrowing groups is critical for the stability of the banking system. In the following paragraphs, repayment behavior and capacity as well as overall financial health of large borrowers and borrowing groups of the banking system have been analyzed based on following:

a. Banks' own assessment of credit worthiness of large borrowers and borrowing groups as captured through Obligor Risk Rating (ORR) which is assigned by banks to their corporate sector borrower.
b. Borrowers' repayment behavior in terms of any overdue payment of their loan obligations to banks.
c. Latest financial indicators of leading corporate borrowers as well as market-based indicators which show how investors value these firms[172].

For this purpose, 30 large borrowing groups and large borrowers (totaling 231 firms) have been identified based on SBP's internal exercise which used diversified sources of information on ownership of firms.

Assessment of Credit Worthiness

Credit worthiness has been assessed for the top 30 borrowing groups based on ORR assigned by banks. Identified firms of these groups hold around 21.3 percent of the corporate / commercial lending portfolio of banks and DFIs as of end Dec-22.

ORR framework: SBP requires banks /DFIs to compile both ORR (a kind of credit rating which is assessed by the lending institution itself) of corporate borrowers and Facility Rating of each financing facilities availed by them[173]. The ORR reflects the lending institution's assessment of the borrower's credit worthiness and one possible predictor of the borrower's default or satisfactory performance on his financial obligations. The rating continuum comprises 1 to 12, with 1 to 9 scales for performing categories and 10 to 12 for default categories.

Based on ORR of different borrowing entities of the groups, overall average rating (weighted by size of loans) of each group was compiled to assess the strength of these groups. Assessment indicates that around three-fourths of the top 30 groups have medium or good quality ratings. Even though CY22 was a relatively challenging year for businesses due to stressed macroeconomic conditions, banks' credit portfolio continued to show steady position of large 30 borrowing groups' credit worthiness and tendency on the part of a banks to prefer lending the better rated borrowers. The average internal credit rating profile of banks' loan portfolio has improved from CY21 to CY22 as reflected by the shift in the

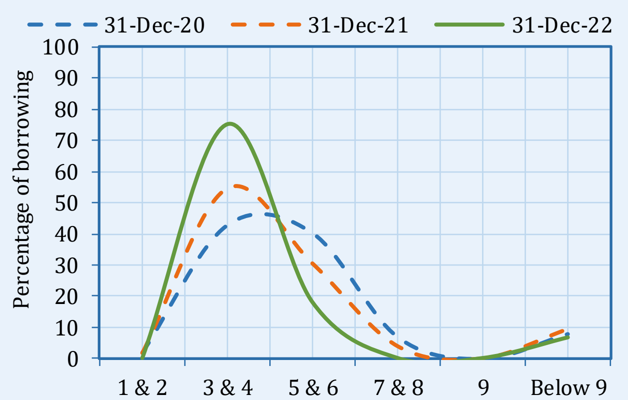
[172] Fetched from Bloomberg utility which captures and compiles indicators of listed firms.

[173] BSD Circular No. 08 of 2007.

quantum of credit to borrowers with stronger credit ratings. (**Chart 7.1.1**).

The shift in bank's credit portfolio towards better ORR also reflects a conservative approach on the part of banks to lend to better quality borrowers, as financial and market-based indicators show signs of weakening in the operating performance in CY22.

Chart 7.1.1: Internal Credit Rating of 30 Large Borrowing Groups



Source: SBP Staff estimates

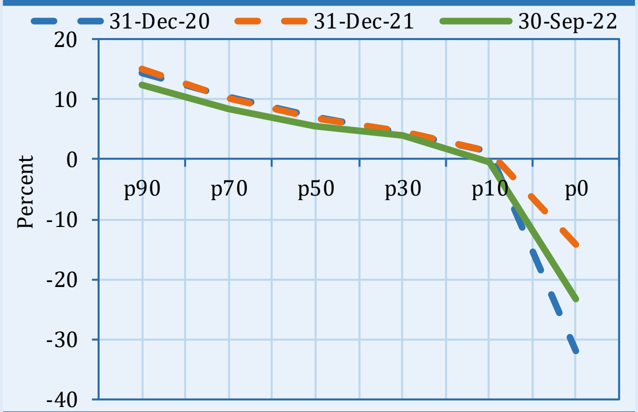
Financial Soundness and Market Performance of Listed Firms of Top 30 Borrowing Groups

Out of the identified firms of the top 30 borrowing groups of the banking sector, 77 firms, were listed on PSX. To analyze the financial soundness of these firms and assess how they are valued by the market and general investors, a detailed assessment of these 77 listed firms was made using the financial and market-based indicators. The following analysis evaluates various indicators of these firms, including ROA, ROE, current ratio (**CR**), interest coverage ratio (**ICR**), gross margin (**GM**), price-to-book (**P/B**) ratio, price-to-earnings (**P/E**) ratio based on the available data for the period ended Sep-22 vis-à-vis data of end Dec-21 and Dec-20.

Leading financial indicators of top borrowing firms for first three quarters of CY22 showed a general slackness in the wake of building macroeconomic challenges. However, these firms in general have shown resilient performance despite increased taxes, high inflation, and input costs, building uncertainty and slowdown in economic activities, and high finance cost.

Earnings of the selected firms generally showed sign of general weakening during CY22, as ROA across the entire sample declined in the first three quarters of CY22 as compared to last couple of years (**Chart 7.1.2**).

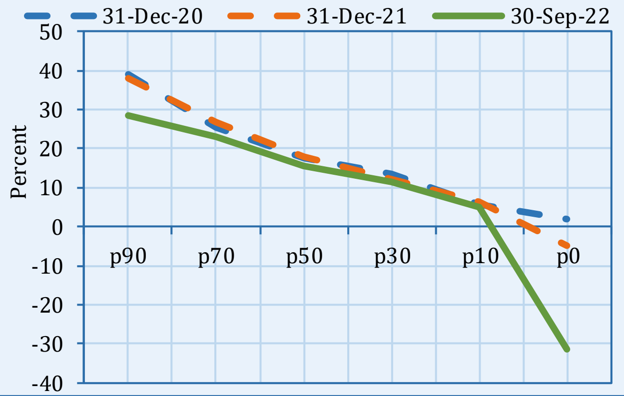
Chart 7.1.2: Percentile Distribution on ROA of Companies



Source: Bloomberg, SBP

Similarly, the ROE in the first three quarters of CY22 shows deterioration across the entire sample of these firms. The decline was more pronounced for the most profitable firms and loss-making firms due to high tax rate in FY22 and stressed economic conditions respectively while the remaining firms in the sample distribution only witnessed slight decline in CY22 (**Chart 7.1.3**).

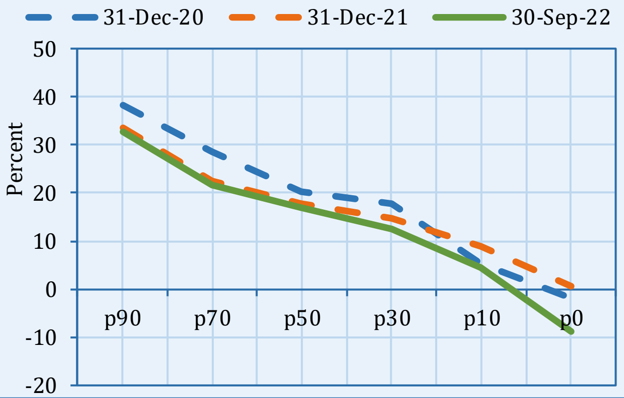
Chart 7.1.3:Percentile Distribution on ROE of Companies



Source: Bloomberg, SBP

Further analysis of earning shows that gross margin of firms deteriorated across the sample firms reiterating the fact that CY22 has been a difficult year for firms to conduct business in the wake of high inflation, economic stabilization measures, and rising cost of inputs (**Chart 7.1.4**).

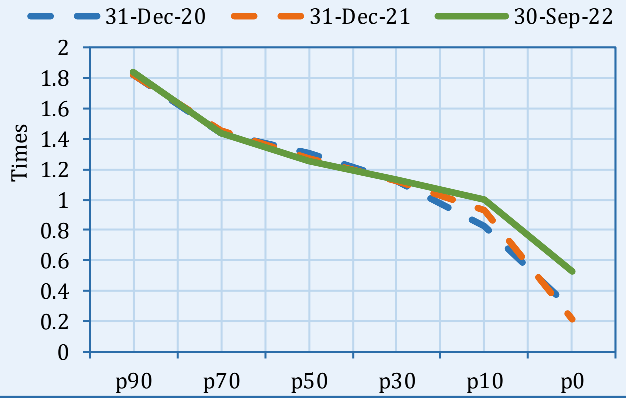
Chart 7.1.4: Percentile Distribution on Gross Margin of Companies



Source: Bloomberg, SBP

Despite the tough macroeconomic conditions in CY22, the liquidity profile of the selected firms remained almost steady and some firms also improved their current ratio. This steady performance may be because firms adopted cautious approach in managing their liquidity in the wake stressed economic conditions and slowdown in economic activities (**Chart 7.1.5**).

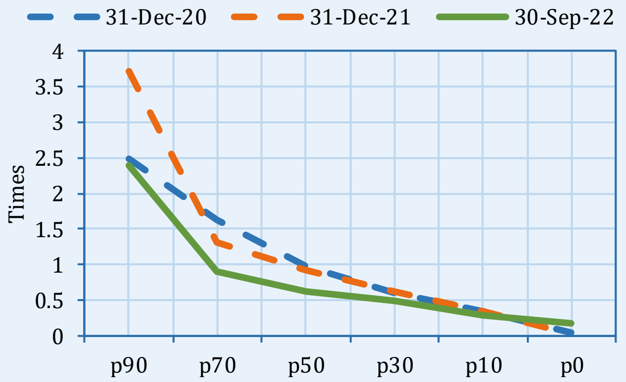
Chart 7.1.5: Percentile Distribution on Current Ratio of Companies



Source: Bloomberg, SBP

Detailed analysis of market and investors' sentiments shows that P/B ratio of the sample firms deteriorated during CY22 due to uncertain conditions and weak performance of equity markets that led to fall in the market prices of equity stocks (**Chart 7.1.6**).

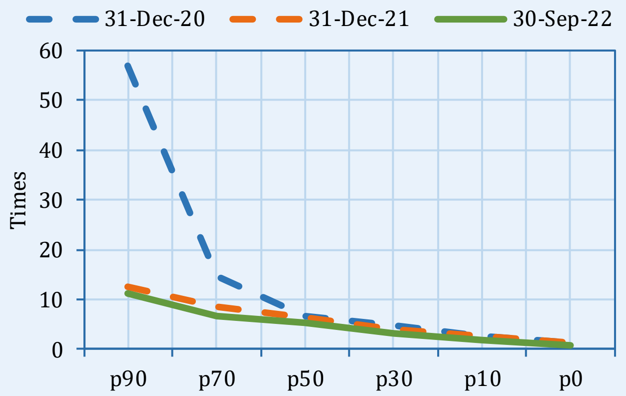
Chart 7.1.6: Percentile Distribution on P/B Ratio of Companies



Source: Bloomberg, SBP

Price-to-Earnings (P/E) ratio also follows the trend of other market indicators showing steep decline across the sample distribution of firms in CY22. In fact, the P/E Ratio has been suppressed since CY21. Although the sample firms' operating performance did not deteriorate significantly in CY22, the stressed economic conditions gave rise to risk-averse sentiments amongst investors who gave more importance to the (stressed) economic conditions than the resilient performance of the firms resulting in a general decline in P/E ratios for sample firms (**Chart 7.1.7**).

Chart 7.1.7: Percentile Distribution on P/E Ratio of Companies



Source: Bloomberg, SBP

Conclusion

The comparative position of ORR of the top 30 borrowing groups of the banking sector shows that these groups have generally improved their credit worthiness (i.e., ORR) in CY22 as compared to CY21. This improvement in credit ratings also reflects a prudent and risk-averse approach on the part of banks to have higher exposure to large well-established firms which have better credit worthiness. Despite stressed economic conditions and low confidence of investors in the equity market, top borrowing firms in general showed quite resilient financial performance and continued to serve their financial obligations during the year under review.

Chapter 8: Financial Market Infrastructures

While the economy witnessed buildup of challenges and slowdown in economic activity during CY22, the Financial Market Infrastructures (FMIs) remained resilient. Pakistan Real Time Interbank Settlement Mechanism (PRISM) operations observed a moderate hike in transactions both in terms of value and volume. Growth in paper-based transactions stagnated, while e-banking transactions maintained the strong growth momentum of previous years, showing double digit growth in all key segments. Mobile and Internet banking uptake enhanced tremendously further clarifying the trend of shifting customers' preference towards digital modes of payments. SBP launched P2P payment system under the flagship initiative Raast-2nd Phase, which received an overwhelming response from customers in a short span of time. The introduction of licensing and regulatory framework for digital banks was another leading development. The performance of National Clearing Company of Pakistan Limited (NCCPL) and Central Depository Company (CDC) improved over the year under review and their resilience also remained intact. These institutions took a number of measures to further strengthen their operational resilience and risk management framework, and to facilitate investors.

FMI is defined as a multilateral system among participating institutions, which are used for clearing, settling, or recording of payments, securities, derivatives, or other financial transactions.

FMIs of Pakistan consist of (i) a Large Value Payment System (**LVPS**) i.e. **PRISM**, (ii) a Retail Value Payment System (**RVPS**) or Instant Payment System i.e. Raast, (iii) an inter-bank and ATM switch i.e. 1-Link, (iv) a clearing house of paper-based instruments i.e. National Institutional Facilitation Technologies (**NIFT**), (v) a corporate securities settlement company i.e. **NCCPL**, and (vi) a corporate securities depository i.e. **CDC**.

Systemic nature of FMIs' institutions make them centric to the clearance and settlement of transactions of the financial institutions as well as in the flow of money and securities. Smooth functioning of payment systems is thus crucial for the efficiency of the financial system with regards to uninterrupted provision of financial services, effective transmission of the monetary policy signals, and stability of the financial markets.

8.1 Payment Systems and their Performance

Provisions of the recently amended SBP Act, 1956 authorize SBP to *operate and exercise oversight over payment systems.*[174] Further, The Payment Systems and Electronic Funds Transfer (**PSEFT**) Act, 2007 empowers SBP to regulate, operate and facilitate the national payment systems of the country.[175] As such, SBP is responsible for ensuring the sound and efficient functioning of the national payment and settlement systems.

Payment Systems' performance moderated with decline in economic activity and growth slowdown ...

The national payment systems witnessed strong growth in both PRISM and retail transactions during CY22, specifically, more pronounced in case of retail payments. The growth in volume of large value transactions through PRISM moderated when compared to the previous year. In terms of retail payments, volumes of E-banking transaction observed double-digit growth while paper-based volumes decreased slightly. Evidently, in line with ongoing trends in the market, E-banking

[174] The SBP Act, 1956 (amended up to Jan-2022).

[175] The PSEFT Act, 2007.

transactions drove the growth in retail payments during the year under review, highlighting customers' growing preference for digital channels instead of traditional modes of payments. Encouragingly, this trend has gotten stronger in recent years especially in the wake of the pandemic, as the lockdowns and social-distancing policies played a key role in changing the preferences of customers and helped them to adopt digital modes of payments **(Table 8.1)**.

Table 8.1: Profile of Payment System Mechanisms

Mechanism	CY19	CY20	CY21	CY22	Growth in CY22
	(Volume in millions and Value in PKR trillions)				(Percent)
a. PRISM					
Volume	2.4	3.4	4.4	4.5	3.7
Value	410.6	373.4	577.8	647.0	12.0
b. Retail Payments (i+ii)					
Volume	1381.6	1382.7	1788.0	2206.2	23.4
Value	207.3	209.3	272.9	371.7	36.2
i. Paper based					
Volume	467.5	389.6	393.4	384.2	(2.3)
Value	142.3	136.0	166.4	210.8	26.7
ii. E-Banking					
Volume	914.2	993.0	1394.7	1822.0	30.6
Value	65.0	73.3	106.5	160.8	51.1

Source: SBP

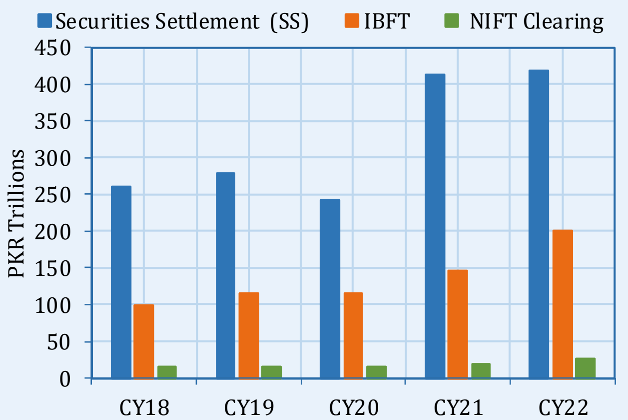
PRISM worked efficiently, while maintaining continuous availability …

PRISM handled a higher volume and value of transactions during CY22 compared to the previous year. However, in terms of growth, momentum of volume and value of transactions moderated compared to CY21, as economic activity slowed down especially during second half of CY22. In value terms, PRISM handled around 63.5 percent of all transactions, highlighting its importance in settlement of economic contracts and being the conduit for large value payments.

Further analysis in terms of value of PRISM transactions depicted that during CY22 growth remained higher than last year in heads of clearing transactions (pertaining to NIFT, NCCPL and 1-Link), and Inter-Bank Funds Transfer (IBFTs) which increased year on year by 35.4 percent and 37.9 percent, respectively. While growth in value of transactions of securities settlements moderated to 1.7 percent **(Chart 8.1a)**. The reduced growth in Securities Settlement transactions was only visible in the value of transactions while the volume of transactions grew by 6.8 percent compared to 6.1 percent in CY21.

On aggregate basis, growth in volume of transactions made through PRISM moderated during the year under review. Growth in volumes of transactions through IBFT significantly reduced to 3.6 percent from 30.0 percent during CY21.[176] IBFT transactions constituted the highest share of 96.6 percent in total volume of PRISM transactions. Growth in the number of clearing settlements transactions increased by 4.4 percent during the year **(Chart 8.1b).**

Chart 8.1a: Value Profile of PRISM Transactions



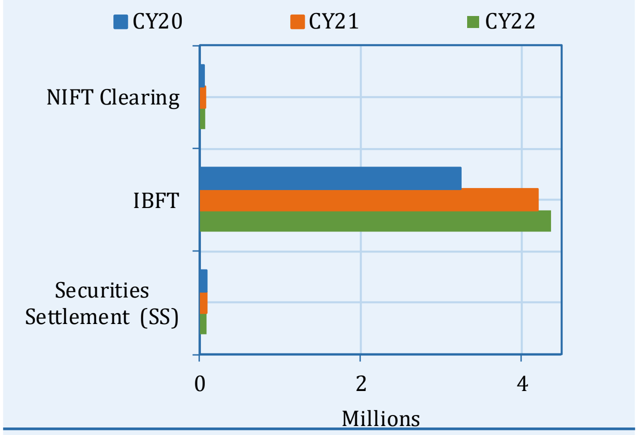
Source: SBP

SBP's implementation of second phase of Raast at the start of CY22, which enabled instant and free Person-to-Person (P2P) fund transfers using either International Bank Account Number (IBAN) or Raast ID, provided an

[176] IBFT transactions include bank-to-bank transfers and third-party customer transfers. Third party fund transfers are processed via PRISM by direct participants on instructions of their customers/accountholders.

alternate channel to customers for fund transfers and thus contributed to reduction in usage of PRISM for IBFT transactions.[177] Additionally, SBP made mandatory for banks in Oct-21 to provide digital payments and facilitation of financial services to institutional clients.[178] Moreover, broad slowdown in economic activity in the country could have also contributed towards reduced growth of IBFT transactions in PRISM.

Chart 8.1b: Volume Profile of PRISM Transactions



Source: SBP

Utilizing its business continuity planning framework and already in place alternate operation arrangements, SBP ensured continuous availability of PRISM during CY22. PRISM's real time gross settlement (**RTGS**) system functioned steadily, thereby limiting settlement and systemic risks in the interbank settlement process.[179] Encouragingly, participating financial institutions expanded during CY22: direct participating institutions in PRISM increased to 59 from 57 institutions at end of CY21.[180]

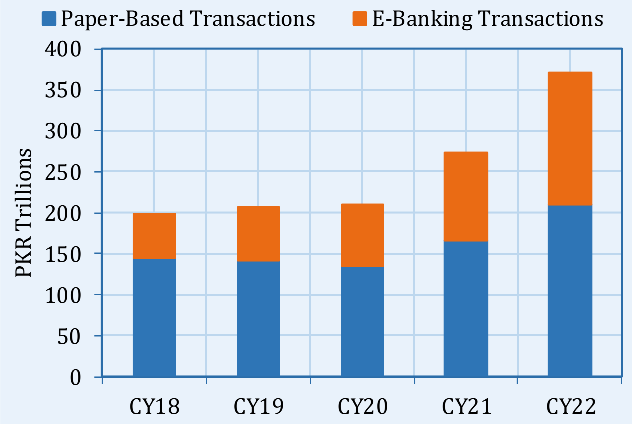
Retail transactions maintained strong growth as e-banking modes of payments continued to gain traction …

Retail payments demonstrated robust growth during CY22. The value and volume of transactions grew by 36.2 percent and 23.4 percent, respectively. The double-digit growth in retail payments in CY22 was consistent with last year's trend. The continuous growth momentum marked a sharp turnaround from the pandemic-stricken stagnation seen during CY20. With strong growth of 51.1 percent and 30.6 percent in terms of value and volume of transactions, e-banking transactions primarily supported the growth in retail payments during CY22. Though, paper-based transactions in terms of value grew by 26.7 percent but the volume of transactions reduced during the year by 2.3 percent.

On a positive note, a significant shift is underway towards electronic modes of payment away from paper-based modes of payment. The share of e-banking transactions in total retail transactions has been on a consistent rise over the years and is expected to rise more sharply in coming years. Since CY18, their share in terms of value and volume increased from 27.0 percent and 63.7 percent to 43.3 percent and 82.6 percent, respectively **(Chart 8.2a and 8.2b).**

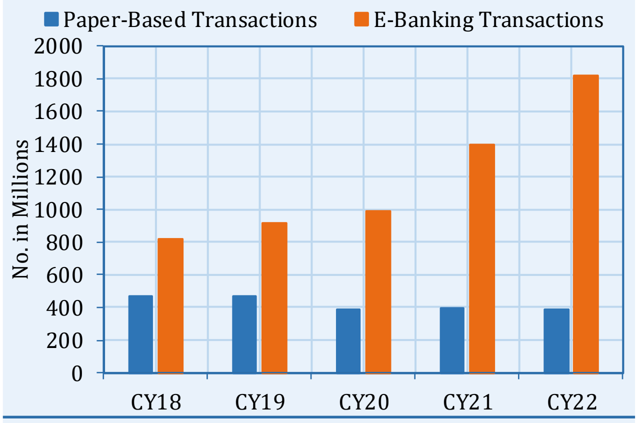
[177] DI&SD Circular No. 1 of 2022.
[178] PSP&OD Circular Letter No. 05 of 2021.
[179] PRISM uses delivery-versus-payment (**DVP**) or payment-versus-payment (**PVP**) mechanisms in transactions to limit settlement risk.
[180] As of end Dec-22, PRISM system has 59 Direct Participants, which include 45 Banks and MFBs, 9 DFIs, and 2 Non-Bank and 3 Special Participants.

Chart 8.2a: Value Profile of Retail Transactions



Source: SBP

Chart 8.2b: Volume Profile of Retail Transactions

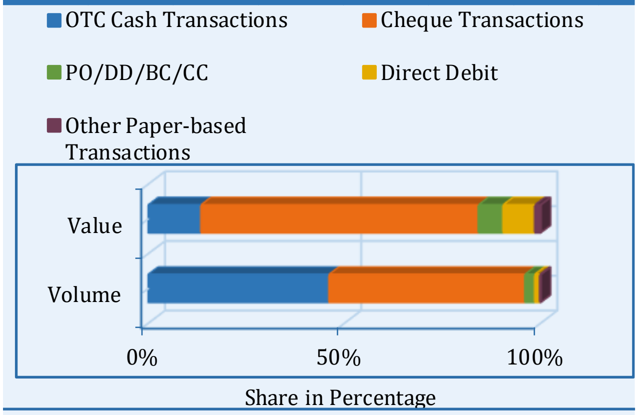


Source: SBP

With static volumes, paper-based transactions continued to be dominated by cheques and over-the-counter (OTC) cash transactions …

Paper-based transactions showed subdued growth in comparison to e-banking transactions during CY22. The stagnating growth in paper-based transactions echoed the consumers' increasing inclination towards digital modes of payments. The volume of paper-based transactions significantly reduced (by 16.6 percent) during CY20 and have not been able to recover to pre-pandemic volume of 467 million transactions achieved in 2019. Likewise, in CY22, quantum of paper-based transactions reduced by 2.3 percent when compared to CY21. However, the value of these transactions increased by 26.7 percent over the year, indicating that such transactions were still the preferred mode for making payments of larger values.

Chart 8.3: Volume and Value wise share of Paper-based retail transactions during CY22



Source: SBP

Detailed analysis showed that cheques dominated the paper-based transactions, contributing 49.9 percent and 70.7 percent of volume and value of these transactions, respectively. Further, over-the-counter cash transaction was also a favored mode typically being used for smaller payments by customers as it contributed 46.1 percent in volume but only 13.4 percent in value of transactions **(Chart 8.3).**

Mobile banking spearheaded the growth in E-banking transactions …

The increasing use of E-banking modes for retail payments witnessed in recent years sustained its growth momentum this year too. The volume of E-banking transactions recorded a robust growth of 30.6 percent in comparison to CY21.[181]

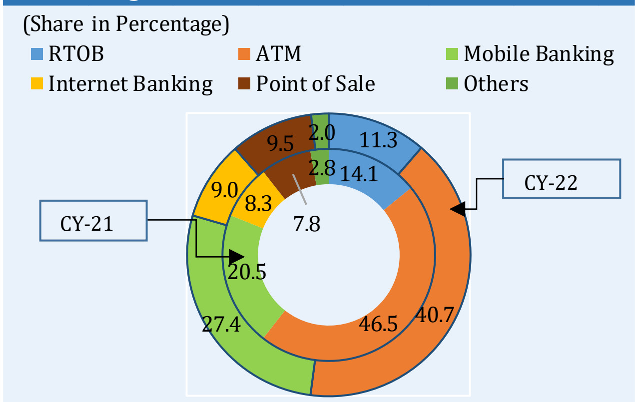
More customers utilized payment services offered through digital channels of mobile banking, internet banking and point of sale (PoS). In particular, mobile and internet banking has displayed strong growth in recent years and outpaced other modes of payment.

[181] E-banking includes transactions conducted via electronic channels including Real-Time Online Branches, ATMs, mobile banking, internet banking, call center banking, Point of Sale (**POS**) and e-commerce.

This trend indicated robust shift in consumers' preference towards digital channels as they provide more convenience and efficiency.

Within overall e-banking payments, the volume of transactions conducted through ATMs held the majority share (40.7 percent) followed by mobile banking (27.4 percent). Mobile banking has consistently increased its share in the total number of e-banking transactions over the years, and attained the highest growth (74.7 percent) among key segments of e-banking in CY22. Resultantly, mobile banking improved its share to 27.4 percent from 20.5 percent in CY21. In a similar vein, transactions conducted using internet banking posted strong growth of 41.5 percent and increased its share in the total number of e-banking transactions to 9.0 percent **(Chart 8.4a).**

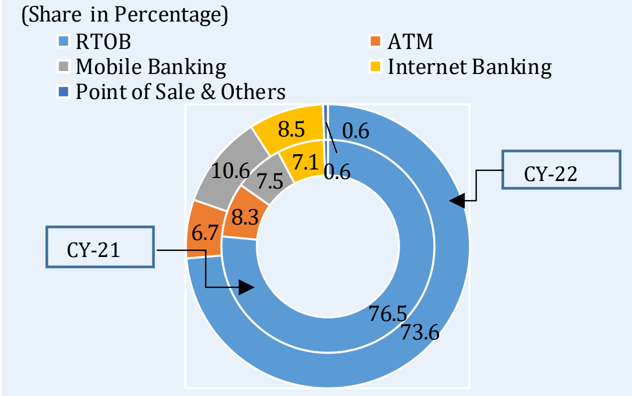
Chart 8.4a: Instrument wise share in total volume of E-Banking transactions in CY21 and CY22



Source: SBP

This uptake in transactions was spurred by the surge in registered users of mobile banking and internet banking to 15.0 million and 10.1 million, respectively. At end of CY21, the users of mobile and internet banking stood at 11.9 million and 6.9 million, respectively.[182]

Chart 8.4b: Instrument wise share in total value of E-Banking transactions in CY21 and CY22



Source: SBP

The transactions conducted using Real-Time Online Branches (RTOB) contributed the highest share in terms of value, holding 73.6 percent share in total value of e-banking transactions. However, the share of RTOB and ATM transactions decreased during CY22, while the share of mobile banking and internet banking increased **(Charts 8.4b).** The trends suggest that adoption of digital mode of payments would pick up more pace going forward due to advancements in digital infrastructure, an increasing proportion of young and tech savvy population, and improving financial and digital literacy.

SBP enabled Person-to-Person transactions under the Second Phase of "Raast" which got heartening response from users ….

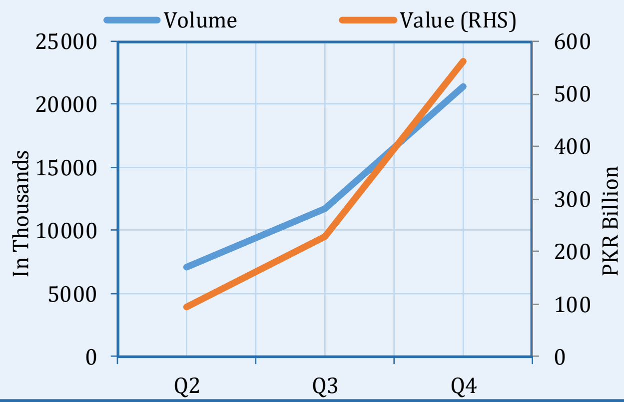
SBP launched its flagship initiative '*Raast*' – an instant payment system for retail transactions – at the start of 2021 as a part of the plan to develop a modern and efficient national payment system.[183] The first phase comprised of bulk payment module, which enabled the digitizing of transfers including dividend payments, salaries and pensions of government departments, among others. The more important second phase was implemented at the start of 2022, which enabled instant P2P

182 SBP – Payment Systems Quarterly Review, Oct-Dec CY22.
183 SBP Press Release, January 11, 2021.

fund transfers in a cost-effective manner by using either the IBAN or Raast ID.[184]

Since the implementation of Raast's P2P system during Q1CY22, strong growth has been seen in the number of registered users which surged to 25.8 million by end December 2022. Simultaneously, the transactions volume has also grown steadily as more users registered with each passing quarter. Total P2P transactions worth PKR 883.5 billion were carried out through Raast during Q2 to Q4 of CY22, of which 63.5 percent were carried out in Q4 (Oct-Dec) period **(Chart 8.5)**.

Chart 8.5: Raast Person to Person Transactions in CY22



Source: SBP

Moreover, to facilitate the users of Raast services, SBP removed the transactional limits on Raast system in April 2022, and advised Banks/ MFBs/ EMIs that they may set transaction limits for their customers based on their risk profile in compliance with the relevant AML/ CFT requirements.[185]

The encouraging customer response to Raast services helped in the efforts for digitization of retail payments, and it also highlighted that consumers enjoyed better accessibility and improved digital experience while using Raast system for financial transactions.

The full implementation of the system would enable end-to-end digitization of payment transfers between individuals, government entities and businesses, and could provide major impetus to developing a comprehensive ecosystem for furthering the digitization of the entire economy.

SBP is making efforts for development of digital banks in the country ...

SBP is committed to facilitate the stakeholders for further digitization of banking and financial services in the country. In January 2022, SBP issued comprehensive Licensing and Regulatory Framework for Digital Banks to facilitate the establishment of digital banks in the country.[186]

This Framework was the first step towards introducing full-fledged digital banks in the country. It could usher in digitization of the banking sector and enhance digital financial services with proper regulatory oversight. By the end of 2022, SBP had reviewed the twenty prospective institutions/ service providers who applied for digital bank license and issued provisional NOCs to five of these institutions/ service providers for opening of digital banks.[187]

Table 8.2: Banks offering E-Banking Services

Description	CY15	CY18	CY22
Banks providing internet banking	21	28	28
Banks providing mobile phone banking	16	21	28
Banks providing call center/ IVR banking	16	22	23
Banks issuing credit cards	12	12	13
Banks issuing debit cards	28	32	35
Banks issuing social welfare cards	-	9	4
Banks issuing prepaid cards	-	4	3
Banks acquiring POSs	6	9	9

Source: SBP

In recent years, with the consideration to fulfill consumer needs and to cater for advancement in digital ecosystem more banks have expanded their e-banking services. For instance, the number of banks offering mobile banking services has increased to 28 now, which stood

184 DI&SD Circular No. 1 of 2022.
185 DI&SD Circular Letter No. 02 of 2022.
186 SBP Press Release, January 3, 2022.
187 SBP Press Release, January 13, 2023.

at 16 and 21 banks at the end of CY15 and CY18, respectively **(Table 8.2)**.

E-banking infrastructure expanded to support the digitization efforts …

The industry wide digitization efforts would fall short of their intended objectives without adequate catering for improvement in e-banking infrastructure. The e-banking infrastructure majorly improved in heads of online branches, ATMs, and POS machines.

Specifically, merchants' acquisition of POS machines carried on the strong growth displayed in CY21 and further increased by 18.2 percent in CY22, primarily due to various facilitation measures taken by SBP in CY20. Within payment cards, ATM-only cards were discontinued and as a result, their numbers significantly declined during the year under review **(Table 8.3)**.

Table 8.3: E-Banking Infrastructure

Description	CY19	CY20	CY21	CY22
		Number		
Online Branches	15,930	16,165	16,571	17,005
ATMs	15,252	16,041	16,709	17,547
POS	47,567	62,480	92,153	108,899
		Number in Thousands ('000)		
Total Payment Cards	42,083	44,285	48,677	44,697
of which:				
Credit Cards	1,644	1,691	1,740	1,914
Debit Cards	26,440	27,592	30,934	32,524
ATM Only Cards	7,650	7,246	4,782	-
Social Welfare Cards	6,180	7,624	11,096	10,160
Pre-paid Cards	168	133	125	99

Source: SBP

The four commercially live[188] Electronic Money Institutions (EMIs) steadily expanded their operations and acquired new customers, as customers holding an e-wallet (EMI account) increased by 30 times to 1.2 million during CY22. The e-wallets holders were just 38.6 thousand at the end of Dec-21. Since their launch, a total of 1.8 million payment cards have been issued to the customers by these EMIs.[189]

Branchless Banking maintained its growth momentum …

Branchless Banking (BB) has flourished in Pakistan by providing relatively efficient and cost-effective alternative to low-income population and small firms. In the past decade, this sector has achieved consistently high growth, and, most importantly, has been instrumental in improving financial inclusion by providing critical financial services of credit, savings and payments to the unbanked population.

During CY22, despite weakening economic activity in the country, BB sector displayed significant growth across the key heads, for example opening of new accounts swelled by 23.2 percent, deposits grew by 34.9 percent to PKR 88.5 billion and agent networks expanded by 6.0 percent to more than 622 thousand agents.

BB's volume of transactions increased by 21.9 percent while the value transacted through these transactions surged by 40.5 percent during CY22. The number of active accounts declined by 5.4 percent despite high growth in total accounts **(Table 8.4)**.

[188] As of end Dec-22, 11 EMIs are operating in Pakistan, of which, 4 EMIs are commercially live, 6 EMIs have in-principle approval, and 1 EMI has acquired pilot approval.

[189] SBP Payment Systems Quarterly Review Oct-Dec CY22.

Table 8.4: Key Statistics of Branchless Banking

Description	CY20	CY21	CY22	Growth in CY22 (%)
No. of Agents	481,837	587,547	622,884	6.0
No. of Accounts (thousands)	62,755	78,810	97,097	23.2
No. of Active Accounts (thousands)	37,020	44,905	42,484	(5.4)
Deposits at period end (PKR million)	51,671	65,580	88,488	34.9
No. of Transactions (millions)	1,819	2,501	3,049	21.9
Value of Transactions (PKR billion)	6,786	8,971	12,602	40.5
Average Daily Transactions (thousands)	5,053	6,948	8,471	21.9
Average Size of Transactions (PKR)	3,715	3,577	4,129	15.4
Average deposit in accounts (PKR)	726	799	911	14.0

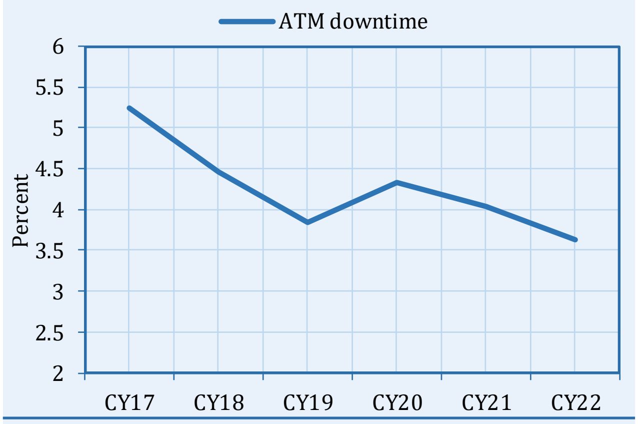
Source: SBP

ATM efficiency improved under the regulatory oversight of SBP...

ATMs plays a vital role for the smooth functioning of retail payments and other financial services, and in the larger context, functioning of the whole economy. For instance, it holds the highest share in e-banking transactions' volume, therefore it is critical that ATMs are kept functioning with minimal down time for better consumer experience and to avoid operational and reputational risk for banks.

During CY22, operational efficiency of ATMs further improved, and the ATM downtime minimized to 3.6 percent from 4.0 percent in CY21 **(Chart 8.6).**

Chart 8.6: ATM Downtime



Source: SBP

With signficant uptake in use of e-banking and emergence of cybersecurity as a leading challenge across the globe, cyber security arrangments have gained more importance ...

Banks have been offering innovative products and services to customers through digital modes including mobile-phone applications. The importance of these mobile apps has grown to become an alternate banking and payment channel for many mobile banking users. As of end Dec-22, mobile banking had 15.0 million registered users in the country. Consequently, vulnerabilities in mobile applications create opportunities for the unscrupulous elements and cybercriminals to exploit and defraud the customers, and such incidents have been occurring with higher frequency as usage of mobile banking increased.

SBP has instituted a comprehensive regulatory and supervisory framework to cope with cyber security risks, and this framework is regularly updated in line with emerging best practices and market dynamics[190].

With this backdrop, SBP, inter alia, developed comprehensive Mobile App Security Guidelines providing baseline security requirements for app owners to ensure confidentiality of customer data and availability of app services in a secure manner. The app owners shall use these guidelines for the architecture, design, development and deployment of mobile payment apps and associated environment that consumers use for digital financial services. For further details on key measures in cyber security, please refer to Appendix A on regulatory and supervisory developments in CY22.

8.2 FMIs other than Payment Systems

NCCPL functions as a clearing house which provides clearing, settlement and risk

[190] For details, please refer "Box 8.1 - Cyber Security - Emerging Trends, Challenges and Policy Response" of FSR, 2021.

management services to PSX through fully automated National Clearing and Settlement System (**NCSS**) for the settlement of equity stocks and other instruments. Since 2016, NCCPL has assumed the role of Central Counter Party (**CCP**) and provides guaranteed settlement in respect of trades reported for clearing and settlement in the NCSS. Further, NCCPL also acts as a Centralized Know Your Customer Organization (**CKO**) for investors of the capital market.

Moreover, NCCPL operates margin trading system (MTS) on their online trading platform and provides margin financing system to participants for recording and settlement of margin financing transactions.

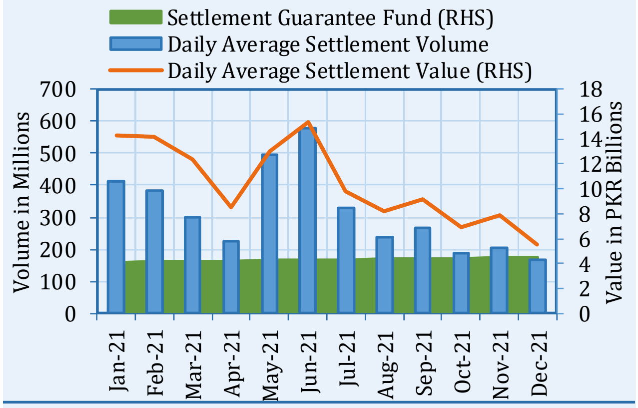
During CY22, NCCPL took various measures to improve the operational efficiencies and strengthen risk management regime.

Mechanism to mitigate settlement risk worked efficiently as the margins provided by clearing members were sufficient ...

NCCPL has in place mechanisms involving a Settlement Guarantee Fund **(SGF)** to mitigate the settlement risk arising from a potential default by any settlement party. The fund stood at PKR 5.1 billion at the end of Dec-22.

In CY22, the daily average settlement value stood at PKR 3.2 billion compared to PKR 10.3 billion in CY21. Similarly, trading volumes exhibited a declining trend as monthly average settlement trading volume decreased from 310.2 million in CY21 to 110.7 million in CY22 as equity investors were reluctant to invest because of deteriorating macroeconomic outlook and high volatility in the market. However, the SGF remained unutilized as the margins provided by clearing members, which are the first line of defense against default risk, worked efficiently **(Chart 8.7)**.

Chart 8.7: Comparison of Settlement Guarantee Fund with daily average of settlement



Source: NCCPL

NCCPL given status of Special Purpose Primary Dealer ("SPD") by SBP

NCCPL can mobilize investments of capital market investors as it has been granted the license to operate as a Special Purpose Primary Dealer by SBP. The retail/capital market investors can now participate in the auction of Government Debt Securities (GDS) i.e., Treasury Bills (T-Bills) and Pakistan Investment Bonds (PIBs) through NCCPL.[191] This facility can play an important role in the further growth of the money market and enable investors to optimize their returns by exploring opportunities in both money and capital markets.

Clearing, settlement and risk management of Growth Enterprise Market (GEM) ...

NCCPL introduced Growth Enterprise Market (GEM) in November 2021 wherein growth companies and SMEs are listed for trading of securities and raising funds for growth and expansion.

[191] DMMD Circular No. 14 of 2022.

To facilitate the investors of GEM, NCCPL took various measures regarding registration and eligibility of individual investors, among others. The risk arising from trades is managed through risk measures including VaR margin, liquidity margin and MTM losses.[192]

CDC performed its functions efficiently …

CDC performs the function of a securities depository in the country. It handles transactions like deposit of securities, transfer of securities, pledging of securities and handles electronic settlement of transactions carried out in the stock market. By end CY22 the number of investor accounts stood at 73,466 which increased by 5.8 percent from CY21. The CDC handled 186.6 billion shares, higher by 9.6 percent from CY21, and with a market capitalization of PKR 4.8 trillion as of December 31, 2022.[193]

CDC took various measures to facilitate the investors …

CDC introduced dividend disbursement through *Raast*, investment facilitation for RDA holders, and digital onboarding of customers through shared KYC. Furthermore, CDC was also granted the status of "Special purpose Primary Dealer" (**SPD**) by SBP. Accordingly, CDC clients can now directly participate in primary auctions of government securities.

Pakistan's first Professional Clearing Member (PCM) - M/s EClear Services Ltd - was launched as a subsidiary of CDC …

To bring transparency and efficiency in the market, a new PCM regime was successfully implemented after the introduction of relevant regulatory framework by the SECP and capital market infrastructure entities. In this connection M/s EClear Services Limited was launched as a subsidiary of CDC. Under the new broker regime introduced by SECP, trading-only-brokers can now avail independent third party custodial, clearing and settlement services of PCM. This initiative aims to ensure adequate investor protection, enhance capital market outreach, and further strengthen compliance with the FATF regime.

[192] NCCPL – Annual Report, 2022.

[193] CDC Newsletter, Oct-Dec 2022.

Special Section: Digital Financial Services (DFS) – innovations, trends, opportunities and challenges for Pakistan's financial system

Background

The last few decades are marked with rapid developments in information and communication technologies (ICT). These developments have brought significant changes to firms' business processes, products, and delivery mechanisms in all sectors of economy and promise major benefits for customers and society in terms of convenience and efficiency. However, the approach to embrace innovation in financial sector across the globe is relatively more prudent compared to other sectors due to policy considerations of financial stability and conduct supervision that warrant judicious balancing with objectives of efficiency and convenience.

The expansion in financial sector and greater use of technology has amplified the digitalization of financial sector worldwide. Digital financial services (DFS) involve use of new and emerging technologies and digital channels such as internet banking, mobile banking, electronic money models and digital payment platforms to fulfill the customers' need for traditional financial services. DFS covers broad range of financial services including payments, deposits and lending, savings, remittances, insurance, advisory, etc.[194]

The digital channels are gradually becoming the primary medium for delivery of financial services across the world. Simultaneously, DFS offers low cost, faster, and secure transactions, and tailored financial services according to the needs of the population. Due to its scalability to support outreach of financial services to consumers, DFS promises expansion in the economic opportunities for the underserved strata of the population. Research suggests that countries with inclusive and easier access to financial services achieve higher economic growths and greater reduction in poverty and income inequality[195].

While the innovation and use of technology in products and processes have improved overall efficiency, experience of customers, and financial inclusion, the same have also raised some policy concerns related to financial stability, consumer protection and information and cyber security risks, requiring enhanced focus and costs for the financial institution and policy makers.

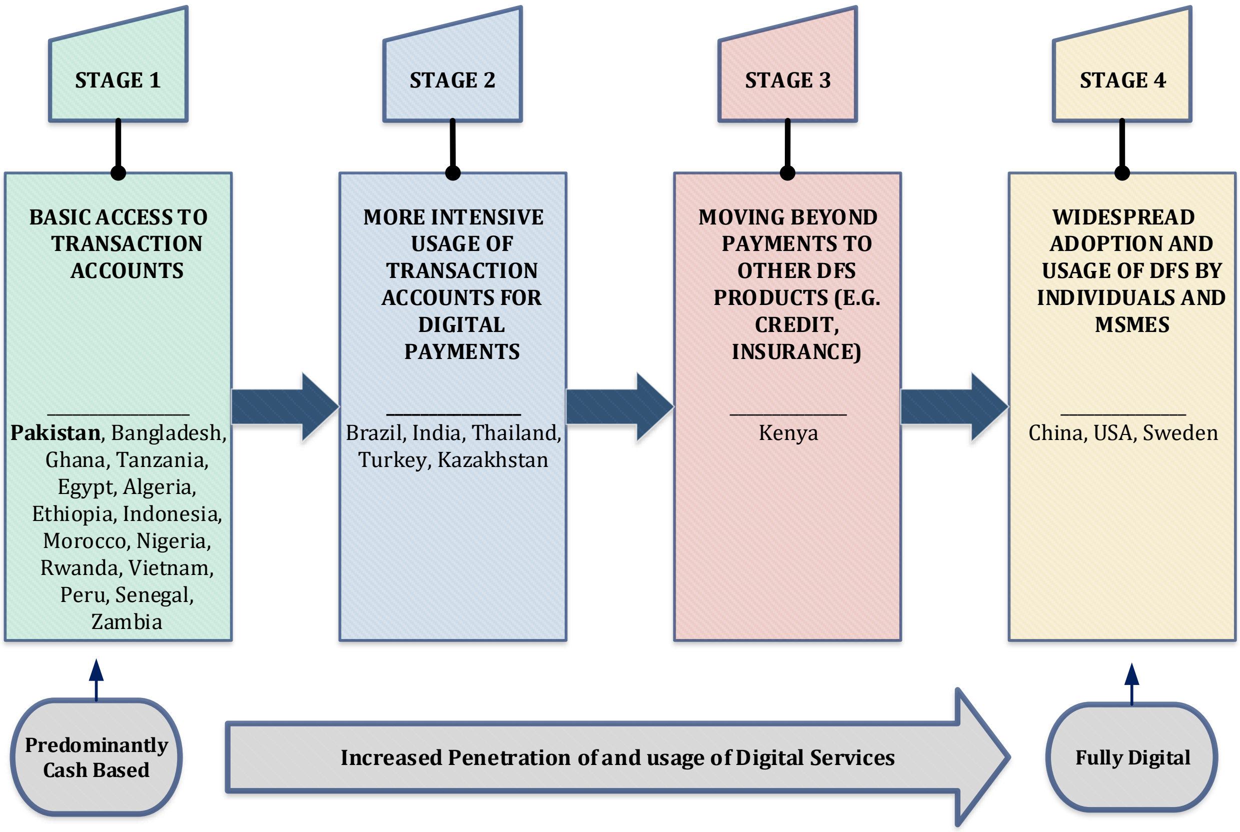
Evolution and growth of DFS – a global perspective

The scale of development in DFS significantly differs across countries particularly with respect to the extent of digitization of financial infrastructure and use of technology in provision of financial services. Based on the extent of underlying services, adoption of DFS by customers and replacement of cash and paper-based instruments, the continuum of progress on DFS can be categorized into four stages **(Chart S1.1)**. Talking about the two ends of this continuum; countries on lower stratum of DFS development, such services mainly focus on basic access to transaction accounts that gradually get wider adoption by the customers in the economy. For countries at advanced stage, DFS services have attained widespread adoption by individual consumers and small and medium enterprises, and have moved beyond basic access to transaction accounts and retail payments to more sophisticated financial services, such as, credit and insurance.

[194] Alliance for Financial Inclusion (AFI) Guideline Note-19 "DFS-Terminology", 2016.
Note: The term "digital channels" refers to the internet, mobile phones, ATMs, POS terminals, NFC-enabled devices, chips, electronically enabled cards, biometric devices, tablets and any other digital system.

[195] Zhuang, Juzhong et al. (2009): Financial Sector Development, Economic Growth, and Poverty Reduction: A Literature Review. *Asian Development Bank Economics Working Paper Series, No. 173*.

Chart S1.1: Stages in Development of Digital Financial Services



Source: World Bank Study- Digital Financial Services, 2020

It is important to note that branchless banking (BB) has particularly made the strongest impact in developing countries as it has enabled the provision of financial services through agents without establishing a conventional bank branch. It makes a significant contribution towards expanding the unbanked populations' reach to financial services by reducing barriers to access, and lowering cost. For instance, during the past decade in developing economies the share of population with a bank account has increased to 71 percent in 2021 from 42 percent in 2011. Similarly, the gender gap in terms of difference between male and female bank account ownership has decreased from 9 percent to 6 percent during this period.[196]
While countries in early stages of DFS development have made significant gains over the recent years and created immense potential for bringing unbanked population into the formal sector, they still lag in terms of digital infrastructure development and penetration of DFS usage among the population.

COVID-19 pandemic enhanced focus on ICT and catalyzed the adoption of DFS ...

Recently, Covid-19 pandemic and associated social distancing restrictions significantly accelerated the adoption of DFS worldwide and encouraged the unbanked population to access DFS because of the convenience they offer. For example, around 80 million and 100 million adults in India and China - the world's two largest countries - respectively, made their first

[196] World Bank. (2021). Global Findex Report. *Washington*. For details, please visit https://www.worldbank.org/en/publication/globalfindex/Data

digital merchant payment of their lifetime after the start of pandemic. On similar lines, adoption of digital channels for payments and cash transfers significantly increased in a lot of jurisdictions worldwide, including Pakistan.[197]

…. however, developing economies generally lag in DFS due to a number of structural issues

Despite the significant growth achieved by DFS in many of the developing economies, the scale of penetration and widespread usage of DFS is broadly limited in majority of the developing economies. The consumers' adoption of DFS has remained somewhat subdued due to a number of factors. For example, consumers from six major economies of South East Asia identified various barriers to the adoption of DFS including lack of financial and digital literacy, fear of hidden cost, ambiguous contractual terms, and complicated application interfaces and processes. In addition, incidence of frauds, and cyber security issues were also identified as major hurdles.[198] A report of Asian Development Bank (ADB) establishes that gender and other gaps persist despite significant growth in digital financial inclusion. The major inhibitors include barriers to access, cost factors, gaps in financial and digital literacy and skills, and gender biases and sociocultural norms.[199]

Evolution of DFS in Pakistan

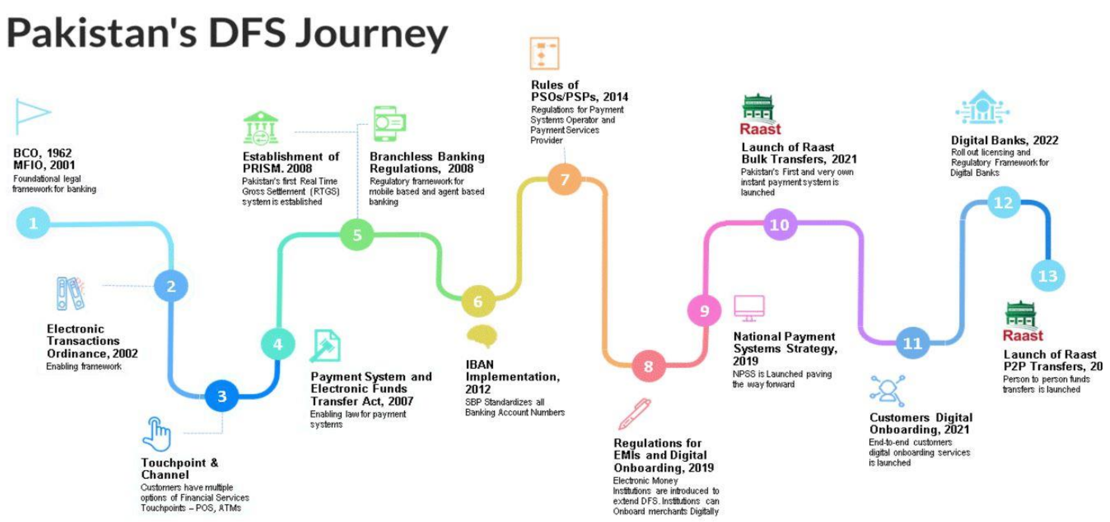
Banking sector started to adopt technologies quite early in their business processes as well as in their financial products/services and its delivery mechanisms. By the dawn of this century, the use of computers and information technologies were quite common in banks, and they had initiated the automation of their processes as well as alternate delivery channels (ADCs) such as ATMs, POS machines, etc. providing customers multiple touchpoints, and moving towards new use cases such as embedded finance.[200]

Accordingly, Pakistan promulgated the Electronic Transaction Ordinance 2002, which gave legal recognition to electronic documents, records, information, communications, and transactions, among others. **(Chart S1.2)**.

Keeping in view the growing significance of payment system and emerging best practices across the globe, the Payment Systems and Electronic Fund Transfers Act 2007 was introduced to provide a comprehensive regulatory framework for payment systems and electronic fund transfers in the country. In 2008, Pakistan's only Real-Time Gross Settlement (RTGS) system named as Pakistan Real-time Interbank Settlement Mechanism (PRISM) was established wherein large value payments are settled on a real-time gross basis to mitigate settlement risk.

[197] World Bank. (2021). Global Findex Report. *Washington*. For details, please visit https://www.worldbank.org/en/publication/globalfindex/Data.
[198] World Economic Forum. (2022). ASEAN Digital Generation Report: Digital Financial Inclusion. *Geneva, December*. For details, please visit https://www3.weforum.org/docs/WEF_ASEAN_Digital_Generation_Report_2022.pdf
[199] Asian Development Bank. (2022). Digital Financial Inclusion and Literacy from a G20 Perspective. *Mandaluyong, November*. For details, please visit https://www.adb.org/sites/default/files/publication/843526/adbi-digital-financial-inclusion-and-literacy-g20-perspective.pdf
[200] By the end of 2004, 2475 RTOBs and 786 ATMs were operating in the country. While a total of 1.59 million debit cards and 808 thousand credit cards had been issued by the banks. (Source: SBP)

Chart S1.2: Pakistan' DFS Journey



Source: SBP

By late 2000s, the penetration of mobile phones had significantly increased in the country which not only augmented the economic activities in general[201], but also opened up vast opportunities for innovation in the financial services for both improving efficiency in services delivery and reaching out to the underserved segments of the society. Accordingly, the regulatory framework of branchless banking was introduced in 2008 to facilitate the provision of financial services to the underserved segments of the society by utilizing the access provided by telecommunication providers. It allowed financial institutions to develop agent networks which led to the introduction and expansion of formal financial services into smaller cities and rural areas[202]. The adoption of branchless banking has taken off over the last decade or so.

With the growth in economy and financial system and the need to innovate and offer unique and new payment use cases, SBP enabled non-bank entities to offer digital financial solutions. For this purpose, rules for Payment System Operators (PSOs)/ Payment Service Providers (PSPs) and Electronic Money Institutions (EMIs) were introduced in 2014[203] and 2019[204], respectively. The purpose of these initiatives was to provide a level playing field to non-bank financial entities and to introduce innovation and competition in the DFS landscape.

In 2019, SBP launched the National Payment System Strategy (NPSS), which sets out a roadmap to structure the national payments system on the principles of efficiency and safety, universal accessibility and protection of the consumers, and to provide a competitive market environment in the payment landscape.

The strategy provides suggestions for key areas of legal and regulatory framework, payment infrastructure, retail payments market, government payments, remittance market and

201 Studies indicate that a 10 percentage point increase in tele-density raises the GDP growth by 1 percentage point (Source: Qiang, Christine Zhen-Wei & Carlo M. Rossotto & Kaoru Kimura (2009). Economic impacts of broadband. *In Information and Communications for Development 2009: 35–50. World Bank).*

202 Karandaaz. (2021). Fintech Ecosystem of Pakistan – Landscape Study. *June*. For details, please visit https://karandaaz.com.pk/wp-content/uploads/2021/06/Fintech-Ecosystem-of-Pakistan.pdf

203 PSD Circular No. 03 of 2014.

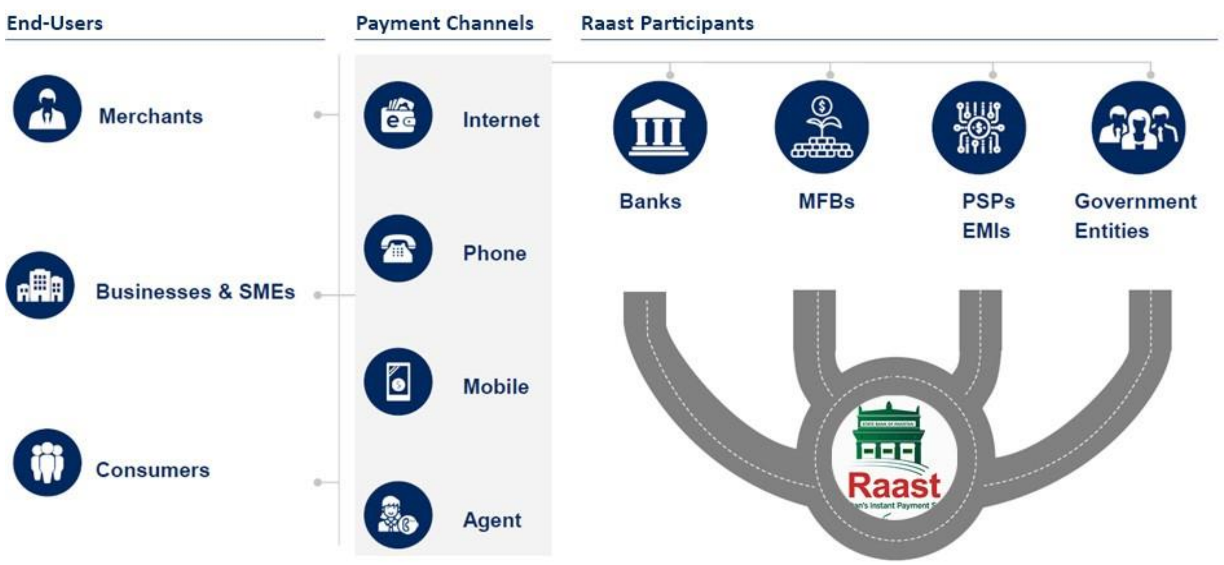
204 PSD Circular No. 01 of 2019.

oversight framework to bring fundamental improvements in the national payment system. Since 2019, a number of key infrastructure and regulatory developments, as set out in the NPSS, have been implemented by the SBP with the collaboration of relevant stakeholders.

In order to facilitate digital remote onboarding of customers especially non-resident Pakistanis and attract higher remittances, SBP introduced Roshan Digital Account (RDA) in 2020. Further, the same facility, i.e. remote onboarding, was also provided to residents during 2021. Moreover, Asaan Mobile Account (AMA) initiative was launched by SBP in CY15 with the collaboration of PTA and banks to enable any person holding CNIC to open bank account with AMA participating bank by using SIM card of any mobile operator and make transactions with even basic mobile phone without the need for internet services.[205]

A major landmark development in payments' sphere was the launch of Raast by SBP as Pakistan's first instant payment system in CY21. Being cost-free, Raast has introduced widespread interoperability through mobile apps which is expected to drive growth in the DFS landscape in the future. Its first two phases have been successfully rolled out covering bulk payments and Person to Person (P2P) payments, while work on its 3rd phase is at an advanced stage that will also bring merchants into the payment landscape of the Raast **(Chart S1.3)**.

Chart S1.3: Raast is Central to DFS Development



Source: SBP

At the start of 2022, SBP issued comprehensive Licensing and Regulatory Framework for Digital Banks to facilitate the establishment of digital banks in the country.[206] This Framework is the first regulatory step towards introduction of full-fledged digital banks in the country, and could usher in further digitization of banking sector and support the growth of DFS with prudent regulatory oversight.[207]

Taking the benefit of advancement in ICTs and wide access to mobile phones, fintech-enabled financial services emerged as promising businesses in non-bank financial sector.

[205] BPRD Circular No. 11 of 2015.
[206] SBP Press Release, dated January 3, 2022.
[207] By December 2022, SBP had completed the review of the twenty prospective institutions/service providers who had applied for digital bank license and issued provisional NOCs to five of these institutions/service providers for opening of a digital bank.

Accordingly, SECP introduced comprehensive regulatory framework for fintech-based NBFCs, covering consumer protection, IT governance, and financial risk management aspects. This framework covers both digital lending as well as digital investment advisor.[208]

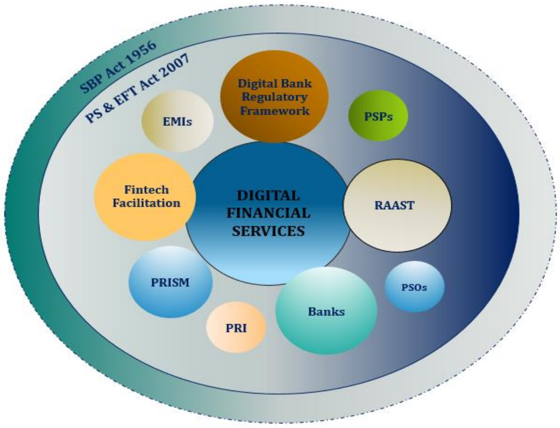
While cloud computing has numerous advantages such as convenience, scalability, on-demand availability, etc. it also faces the various risks like legal risk, jurisdiction risk, business continuity risk, and information security risk. To mitigate these risks while harnessing the benefits of cloud technology, SBP has provided a framework in 2023 on Risk Management in Outsourcing Arrangements and Outsourcing to Cloud Service Providers (CSPs).

SBP has instituted a comprehensive regulatory and supervisory framework which aims to promote the sustainable innovation and efficiency in financial sector by appropriately balancing the objectives of financial stability and consumer protection and coping with emerging risks especially cyber and information security.

Current State of DFS in Pakistan

The current state of DFS infrastructure and spectrum in Pakistan comprises of underlying legal and regulatory frameworks, infrastructure and a host of platforms and products **(see Chart S1.4)**.

Chart S1.4: DFS Landscape in Pakistan



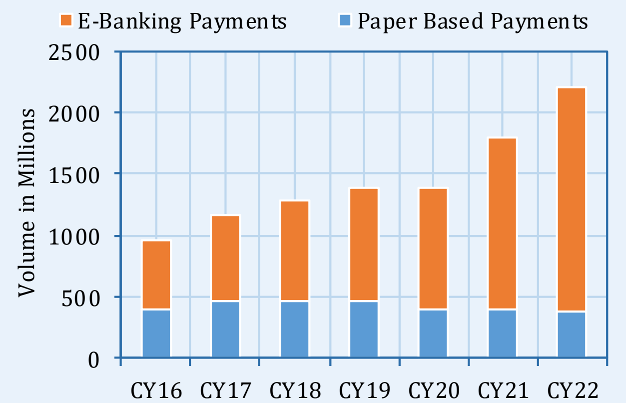
PRISM=Pakistan Real-time Interbank Settlement Mechanism, EMIs=Electronic Money Institutions, PRI=Pakistan Remittance Initiative, PSPs=Payment Service Providers, PSOs=Payment System Operators

Source: SBP

In recent years, advancement in financial sector digitalization and consumers' evolving preferences has brought significant changes in their consumption pattern of financial services. Most significantly, the payment transactions using paper-based instruments have been on a declining trend. At the same time, electronic banking has been consistently maintaining its strong growth momentum in all of its key segments. Particularly, mobile and Internet banking uptake has enhanced tremendously making further clear the trend of customers' shifting preference towards digital mode of payments **(Chart S1.5)**.

[208] By end of CY21, SECP had licensed six fintech-enabled NBFCs which were engaged in nano-lending, P2P lending and buy-now-pay latter models and had disbursed cumulative amount of PKR 6.1 billion to more than 365,000 borrowers.

Chart S1.5: Segment wise share in Retail Payments Since CY16



Source: SBP

Moreover, the tremendous growth of branchless banking significantly helped in expanding financial inclusion and outreach of financial services during the last decade. Pakistan's DFS landscape has come a long way over the last two decades or so. In line with global trend and SBP's recent policy drive to use technology as a tool to leapfrog in financial inclusion, the growth is particularly phenomenal in the recent few years[209] **(Table S1.1)**.

Table S1.1: Key Statistics on Digital Finance Services (DFS) in Pakistan

Description	CY11	CY16	CY19	CY20	CY21	CY22
RTOBs	7036	13,926	15,930	16,165	16,571	16,603
ATMs	4734	12,352	15,252	16,041	16,709	17,133
Point of Sale (POS)	44383	52,062	47,567	62,480	92,153	104,865
Debit Cards (In thousands)	10,910	17,470	26,440	27,592	30,934	30,162
Credit Cards (In thousands)	1,564	1,209	1,644	1,691	1,740	1,800
No. of BB Agents	22,512	359,806	437,182	481,837	587,547	622,884
No. of BB Accounts (thousands)	929	19,965	46,103	62,755	78,810	97,097

Source: SBP

The Economist's Microscope Index on Financial Inclusion for 2020 rated Pakistan high on government and policy support, products and outlets, and consumer protection parameters but low on stability and integrity, and infrastructure parameters[210]. Since then, a host of regulatory and infrastructural frameworks have been launched including a digital banks framework, customers' digital onboarding mechanism, mobile app security guidelines, QR code standardization, among others. SBP significantly enhanced its supervisory mechanism in respect of DFS, with particular focus on cyber security, financial soundness, and consumer protection. In addition, Raast – instant payment system – has been launched offering wider interoperability in the market. Moreover, SBP and other stakeholders successfully implemented the action plan for improvement in AML/CFT regime in line with FATF recommendations to enhance the integrity of the financial sector.

Over the last few years, the country has witnessed the introduction of a number of modern products and initiatives which characterize advanced stages of DFS developments. However, these products have yet to explore their fuller potential, as consumers still rely heavily on cash and other conventional paper-based instruments.

Challenges and Opportunities

There are some issues which continue to hinder the widespread adoption of DFS in Pakistan. Despite the launch of branchless banking and other user-friendly modes, the issue of low levels of financial and digital literacy persists in the country where a significant segment of the population remains unbanked. In addition, low cost and widespread acceptability for payments though cash and other paper-based instruments dis-incentivizes the consumers and businesses to adopt digital modes of payment.

With the increasing adoption of DFS, there is a commensurate increase in IT and cyber security

[209] The prevailing trends and performance of payments has been comprehensively covered in the Chapter 8-Financial Market Infrastructures (FMIs) of this publication.

[210] The Economist Intelligence Unit. (2020). Global Microscope 2020 – The role of financial inclusion in the Covid-19 response. *London*. For details, please visit https://pages.eiu.com/rs/753-RIQ-438/images/EIU_Microscope_2020_proof_10.pdf

risks, and digital information security which have become enterprise wide risks. However, financial institutions working in the country strive to have effective arrangements in place to cope with IT security risk and ensure the security of their network infrastructure. SBP has introduced a comprehensive cyber/information security framework for the financial institutions in recent years to maintain the resilience and robustness of cyber security measures.[211]

Advancement in digitalization has also brought forward the concerns regarding miss-selling of financial products (due to information asymmetry), and related issues of consumer protection. Increasing incidence of such nature could hamper digitization efforts as costumers would tend to assign higher probability of fraud/information leaks when using digital modes to access financial services. To tackle this issue, improving customers' financial and digital literacy and awareness of their rights as costumers can play a vital role in minimizing the incidence of such issues. Moreover, the frameworks of consumer protection, grievance handling, regulatory oversight, and complaints monitoring are already in place by the regulator to protect the costumers' rights. Keeping in view the fact that more focused approach may be necessary for effective implementation of these frameworks, SBP has recently enhanced its organizational framework by creating dedicated departments for regulation and supervision of consumer protection and fair treatment regime.

Banks traditionally follow conservative business approach due to strong financial stability concerns and associated regulatory regime as well as their relative monopoly in provision of banking services. Accordingly, they have the tendency to lag in adopting technological changes and prefer time-tested business models and products. As banks dominate digital financial landscape, it remains a challenge – like any other country - to create enabling incentive structure for banks to adopt technology and innovation and tap unserved and underserved segments of the economy.

Going forward, the implementation of National Payment System Strategy (NPSS) recommendations is vital for further development of national payment landscape in a sustainable manner. Its implementation would also lend support in completion of national goals under the National Financial Inclusion Strategy (NFIS) and the financial stability of the country.[212]

With regards to the key infrastructure components of a national payment system, Pakistan currently lacks an ACH (automated clearing house)[213], which provides convenience and low costs for low-value, bulk payments. It is expected that RTGS will be upgraded to automated transfer system (ATS) in near future, which will have RTGS and ACH functionality. This upgrade would support the expansion in payment landscape by improving payments efficiency and better management of any underlying risks.

Moreover, the end-to-end digitization of payment transfers between individuals, government entities and businesses through Raast, after its full implementation, would present a significant opportunity for the digitization of entire economy. To realize Raast's full potential, all the market players (comprising banks, MFBs, EMIs and PSPs/ PSOs) will need to make extra efforts for development of associated payment channels

[211] For further details on key measures on in cyber security, please refer to Appendix A i.e. Regulatory and Supervisory Developments in CY22.

[212] SBP through World Bank's Financial Inclusion Support Framework (FISF) program, prepared National Payment System Strategy (NPSS) for the development of national payment systems in 2019. Accessed at: [National Payment Systems Strategy (sbp.org.pk).]

[213] ECB definition: Automated clearing house (ACH) is an electronic clearing system in which payment orders are exchanged among participants (primarily via electronic media) and handled by a data-processing center.

and products and further improvement of consumers' service experience and awareness.

While interoperability among the various payment services in mobile money segment has made progress in recent years, further collaboration between the stakeholders may be needed for additional progress. It has significant bearing on convenience of consumers and merchants in conducting online payments as well as the growth of DFS in mobile money segment.[214] Furthermore, since many cellular subscribers do not have smartphones, enabling USSD network can be a potential stimulant for DFS uptake concerning transactions in accounts. Active mobile wallets still constitute a small proportion of adult population with access to mobile phones.

Furthermore, the advent of digital currencies and, more specifically, the underlying block chain technology holds great potential for increasing efficiency and transparency in the financial sector. However, the associate risks and regulatory incompatibility are still key issues. For further details of crypto assets and associated risks and opportunities, please refer to **Box 8.1**.

Nonetheless, Pakistan's economy holds wide prospects for growth of DFS in coming years. Country has achieved a significant growth in ICT and infrastructural support system. For instance, broadband penetration and tele-density have reached 54 percent and 82 percent of total population by end Mar-23, respectively[215]. On the other hand, country's growth potential, which has largely remained untapped due to some idiosyncratic challenges, presents wide space and opportunities for acceleration in economic activities. Thus financial institutions can leverage sufficient availability of ICT competencies and platforms to tap large growth potential and create value for their investors, customers and wider economy.

The entrance of diversified market players like non-bank institutions (e.g., EMIs) and digital banks would increase the pressure on traditional players for innovation and will continue to disrupt the financial services ecosystem in novel and profound ways. All market players and regulators within the DFS landscape need to capitalize on the opportunities while remaining vigilant to the risks that technology-enabled financial innovations bring to the fore.

[214] Agents and consumers were required to maintain separate money wallet accounts with each of the various service providers due to the absence of interoperability amongst money wallets.
[215] Pakistan Telecommunication Authority.

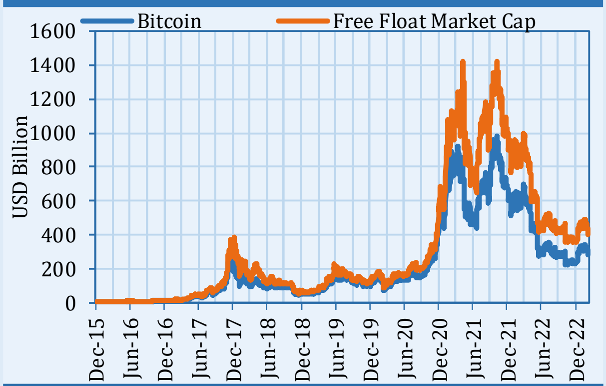
Box 8.1: Crypto Assets - underlying risks and opportunities, and supervisory approaches across the globe

While there are no globally consistent definitions of crypto assets (CAs), they represent assets (such as currencies or tokens, offerings and funds) that are **privately issued digital representations of value that are cryptographically secured and deployed using distributed ledger technology (DLT)[216].**

Unlike conventional financial record-keeping systems that are built on central record-keeping, crypto assets (like Bitcoin and Ether) operate on a decentralized ledger and feature peer-to-peer exchange of value, usually in a pseudonymous manner. They are not under the specific control of any particular country or jurisdiction and are generally decentralized. Crypto assets are neither issued nor backed by any central bank.

Due to their benefits of convenience, anonymity, use for speculation, etc., crypto assets have attracted growing acceptability among some sections of the global populace (**Chart 8.1.1**).

Chart 8.1.1: Free Float Market Capitalization of Cryptocurrencies



Source: Coinmetrics

Key policy challenges in CAs:

The growing size of CAs has nudged central banks and financial supervisors around the world to study and analyse the crypto-ecosystem. The concept and its underlying technologies (e.g., DLT) represent enormous potential benefits e.g., cheap and fast financial transactions, scalability and potential to scale financial inclusion, operational resilience, and traceability of transactions. Therefore, a number of central banks are moving to issue their own central bank digital currencies (CBDCs). However, the CAs raise a number of concerns such as:

- **Implications for monetary policy:** CAs can affect the effectiveness of monetary policy as they are not subject to oversight and control like traditional elements of money supply in the economy resulting in weaker monetary policy transmission channels. Central banks may face challenges in assessing and regulating their impact on the financial system and economy. This can make it difficult for central banks and monetary authorities to achieve price stability.
- **Implications for foreign exchange regime and flight of capital:** Due to their scalability and ability to connect users across borders without oversight of any foreign exchange authority, CAs can create challenges for FX related control mechanisms and lead to untoward outflow of capital that can be a source of concern for a country facing foreign exchange challenges.

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216 The definition does not cover public digital monies such as central bank digital currencies (CBDCs). (Source: International Monetary Fund. (2023). IMF Policy Paper on Elements of Effective Policies for Crypto Assets. *Washington, February.* For details, please visit https://www.imf.org/en/Publications/Policy-Papers/Issues/2023/02/23/Elements-of-Effective-Policies-for-Crypto-Assets-530092).

- **Financial stability** i.e. concerns for the financial soundness of financial institutions and markets. The recent failures of a few banks which, inter alia, have significant exposure to crypto industry, highlight the significance of CAs and the underlying technology. In addition, due to the opaque nature of their operations, there can be a build-up and transfer of vulnerabilities from the crypto-ecosystem to the formal financial system leading to financial stability concerns.
- **Integrity and misuse for financial crimes:** The inherent features of anonymity and lack of supervisory oversight increases the risk concerns of CAs being used for money-laundering and terrorist financing, tax evasion, etc. While the crypto-ecosystem facilitates traceability of transactions, there could still be issues in identifying the beneficial owners of transaction account for many cryptocurrencies. The Silk Road black market is a leading example where crypto assets were used to conduct illegal activities on the dark web.
- **Consumer protection and fair treatment:** Due to the opaque nature of activities, CAs can be misused to commit various illegal activities such as fraud, theft, tax evasion, etc. Inherent complexities, lack of transparency and standardization, coupled with absence of, or weak, conduct supervision can impede the customers' ability to make informed decisions. For example, the filing of bankruptcy by FTX, the second-largest crypto exchange, revealed risky investments, inadequate governance and hinted at possible fraudulent activities. Similarly, in the collapse of Terra USD - a stable coin – there were hints of fraud with regards to its reserves. In addition, while the underlying technology is secure, wallet holders on various exchanges have experienced incidents of thefts. This also raises consumer protection concerns. The US Federal Trade Commission (FTC) – a consumer protection agency - has disclosed that crypto scams have topped USD 1 billion since 2021[217]. Due to the opaque nature of crypto operations and limited oversight and regulations, unscrupulous characters have scammed a lot of crypto holders.
- **Market imperfection and high volatility:** The crypto-industry is dominated by Bitcoin, which is a 1st generation cryptocurrency and distinct from stable coins, in terms of market capitalization. This means that most of the crypto-industry is prone to volatility. This is illustrated by the fact that market capitalisation of the crypto industry is down by 75 percent from its November 2021 peak[218].
- **Environment and Energy Consumption:** Some crypto-asset operations (particularly mining) use considerable energy resulting in greenhouse gas (GHG) emissions as well as additional pollution, noise, and other local impacts to communities living near mining facilities. The accelerated growth of crypto-assets including Bitcoin – that generally do not contribute to real economic activity - could hinder the world's efforts to achieve net-zero carbon pollution.
- **Stable Coin and its dynamics:** While stablecoins are generally considered safer from unbacked tokens (as they are usually backed by assets), there are still some financial stability concerns e.g., adequacy of reserves that were also exposed with the collapse of Terra USD. In addition, due to their increasing interconnectedness with traditional finance, stablecoins pose

[217] Source: https://www.ftc.gov/news-events/data-visualizations/data-spotlight/2022/06/reports-show-scammers-cashing-crypto-craze

[218] Source: Coinmetrics

contagion risks as there are still questions surrounding its "stability".

While crypto assets offer some benefits, the realization of these benefits still requires enabling pre-conditions. For example, to enhance financial inclusion through crypto-assets, consumers need to be financially and digitally literate – the same challenge that consumers of traditional financial products face. Furthermore, while some encouraging work is being conducted to support cross-border payments (e.g., through Ripple's XRP), it still is only on a minuscule level compared to the volume of cross-border payments globally.

Global Approach on Regulations of Crypto Assets:

A review of global practices shows that globally regulators have not yet sufficiently addressed the phenomenon of cryptocurrencies, or settled on a collective approach to this innovation. From conceptualization to the definition and potential usage, it remains an area that requires further regulatory clarity. Various approaches have been adopted, with actions ranging from issuance of communications declaring restrictions on crypto assets-related activities or a downright ban on the use of crypto assets. Therefore, policy responses of jurisdictions on CAs can be categorized as (**Table 8.1.1**):

i. Explicit ban on CAs but permission to utilise underlying technologies for uses such as research, experimentation, record-keeping, etc.

ii. Implicit ban, e.g., prohibiting regulated financial institutions from facilitating and dealing in CAs, and/ or issuing general caution to public about the underlying risks.

iii. Implicit or explicit permission for CAs under an existing or new regulatory framework

iv. Legal tender: CAs can be formally recognized as legal tender. However, only one country i.e. El Salvador has adopted this strategy, as its economy was already dollarized.

Table 8.1.1: Regulatory Approaches on CAs

Regulatory Approach	Jurisdictions
Explicit Ban	China, Tunisia, Morocco, Algeria
Implicit Ban	Pakistan, Saudi Arabia, Bangladesh, Türkiye, Indonesia
Allowed	US, India, Germany, France, England, Japan, Russian Federation
Legal Tender	El Salvador

Source: Law Library of US Congress, Regulation of Cryptocurrency Around the World: November 2021

Recent deliberations on this subject highlight the benefits of underlying technologies and merits of regulating CAs, however, they do not rule out the option of banning them. It is recognized that strict bans may not be the first-best option, however targeted restrictions could apply, depending on the domestic conditions, policy objectives, and capacity constraints of the authorities.[219]

In some countries, with developed financial sectors and ample external account cushions, CAs are considered permissible activities under their regulatory ambit; however, the regulations primarily focus on key policy issues of tax and AML/ CFT risks. The crypto-asset service providers are treated as money service businesses particularly for AML/ CFT purposes. However, due to the decentralized nature of crypto-assets, regulators have to rely on voluntary compliance and self-reporting.

Moreover, analysts note that regulating the crypto industry could create a sense among the

[219] International Monetary Fund. (2023). IMF Policy Paper on Elements of Effective Policies for Crypto Assets. *Washington, February.* For details, please visit https://www.imf.org/en/Publications/Policy-Papers/Issues/2023/02/23/Elements-of-Effective-Policies-for-Crypto-Assets-530092.

public that CAs have the backing of authorities like other regulated financial institutions. Due to this, investors could begin to invest in VAs and increase the interconnectedness with the traditional financial system. So when the next collapse occurs in the crypto-assets industry, there would be calls to bailout the industry as well.

Some observers also note that the crypto-industry faces severe issues of sustainability as it does not generally contribute to real economic activity. Recent volatility and turmoil in the industry has particularly strengthened this view.

Developments in CAs and underlying technologies are quite dynamic and present both opportunities and challenges for economies around the world. However, the appropriate policy response on CAs will largely depend upon the state of economic and financial sector development, and policy objectives of respective jurisdiction. Moreover, it will require a coordinated approach, which incorporates the views of all stakeholders.

State Bank's Stance on Crypto Assets

State Bank of Pakistan through its Circular issued in 2018 cautioned public that cryptocurrencies are not legal tender, issued or guaranteed by the Government of Pakistan. Moreover, SBP clarified that it does not authorize or license any individual or entity for the issuance, sale, purchase, exchange or investment in any such Virtual Currencies (VCs)/ Coins/ Tokens in Pakistan. Therefore, all regulated entities were advised to refrain from processing, using, trading, holding, transferring value, promoting and investing in Virtual Currencies/ Tokens.

Appendix A

SBP – Regulatory and Supervisory Developments in CY-2022

The State Bank of Pakistan (SBP), as one of its objectives under the State Bank Act, 1956, has the responsibility to contribute to the stability of the financial system of Pakistan.[220] SBP, as the regulator of key financial institutions and payment systems (i.e. Banks, Microfinance Banks, Development Finance Institutions, Exchange Companies, Payment System Operators and Providers (PSOs/PSPs), and Electronic Money Institutions (EMIs)), plays a crucial role in the supervision and development of the financial sector of the country to ensure financial stability and support growth.

The developments in the global and domestic financial conditions during CY22 posed major challenges for financial sector/ institutions across the world including Pakistan. The risks to global financial stability increased considerably during the year under review owing to geopolitical conflicts, deteriorating economic outlook and multi-decade high inflation across countries. The rise in geopolitical and economic uncertainty along with monetary tightening by major central banks across the world led to tightened global financial conditions.[221] The situation was especially challenging for the emerging markets and developing economies (EMDEs) as they are exposed to multi-faceted risks driven by high external borrowing cost, high debt levels, persistently high inflation, weakening economic fundamentals and associated change in global risk sentiment. As such, these vulnerabilities required continuous efforts on part of the central bank to monitor and assess the emerging risks and take appropriate measures for stability and soundness of the financial sector.

SBP kept a close watch on the developments which could have implications for financial stability and undertook various measures to strengthen its policy framework during CY22 and mitigate the emerging systemic risks. A brief overview of SBP's measures for contributing to the financial stability objective is given below.

Measures to Promote Financial Stability – A Macro Perspective

Mandate and role of SBP and in respect of financial stability: Necessary amendments were made in the SBP Act in Jan-22 to, inter alia, formalize the mandate and role of SBP in respect of financial stability (i.e., to contribute to the stability of financial system), formulation and implementation of macro-prudential policy measures, resolution of distressed banks, cooperation with other regulators, etc. Moreover, the scope of emergency liquidity assistance tool (i.e., LOLR facility) was enhanced to cater the interim liquidity stress in systemically important banks and thus prevent a bank's failure and any consequent financial crisis that could emerge from such stress.

Crisis preparedness and management framework:

The bank resolution and crisis management framework at SBP was thoroughly reviewed in line with good practices established worldwide. In the light of this review, necessary improvements are being made in available tools, institutional arrangements, and organizational processes. To augment the crisis management capacity of the staff and to test the effectiveness of institutional arraignments and

[220] State Bank of Pakistan Act, 1956.
[221] International Monetary Fund. (2022). Global Financial Stability Report. *Washington,* October. For details, please visit https://www.imf.org/en/Publications/GFSR/Issues/2022/10/11/global-financial-stability-report-october-2022.

processes, a crisis simulation exercise was held with the technical assistance of Toronto Centre.

Deposit Protection Corporation (DPC) being a key player of financial safety net took significant steps to strengthen its deposit protection capacity. It has employed a sound investment policy based on the principles of safety and liquidity and developed necessary mechanism and arrangements to discharge its obligations in orderly manners. Such measures resulted in the stable growth in deposit protection fund that enabled the DPC to double the protection amount to PKR500,000, providing comfort and assurance to the depositors and adding to financial stability.

Systemically important banks: Global financial crisis highlighted the importance of enhanced supervision of systemically important financial institutions. Accordingly, the standard setting bodies and supervisors across the globe are continuously reviewing the supervisory frameworks and reshaping supervisory policies to enhance resilience of the systemically important banks. In line with emerging best practices, particularly the indicator based approach of Basel Committee of Banking Supervision (BCBS), SBP developed a framework for designation and supervision of Domestic Systemically Important Banks (D-SIBs) in April 2018.[222] In view of developments over the last few years on international and domestic fronts and performance and of banks, SBP revised the D-SIBs framework during the year under review and the requirement of Higher Loss Absorbency (HLA) capital surcharge for designated D-SIBs in the form of additional Common Equity Tier 1 (CET1) was revised to align with the international best practices.[223]

Implementation of IFRS-9 as a countercyclical tool: The International Accounting Standards Board (IASB) issued International Financial Reporting Standard-9 on Financial Instruments i.e., IFRS 9 effective from January 1, 2018. This standard, inter alia, introduces the concept of expected credit loss provisioning, which brought major changes in the way the financial institutions (FIs) are to assess and provide prospective impairments losses in all of their financial instruments, including regular loans and investments. In line with international best practices, SBP finalized and issued Application Instructions on IFRS-9 for ensuring smooth and consistent implementation of the Standard. Keeping in view the prevailing circumstances, the effective implementation date of IFRS-9 has been extended. All banks/DFIs/MFBs are required to implement IFRS-9 standard from January 01, 2024. Further, SBP has already issued IFRS-9 compliant format for quarterly/ half yearly and annual financial statements on February 09, 2023. Nevertheless, early adoption of the Standard is encouraged.[224, 225]

AML/CFT regime and completion of FATF Action Plan under increased monitoring regime: Pakistan was placed among jurisdictions under increased monitoring list by Financial Action Task Force (FATF) for deficiencies in AML/CFT regime in 2018. However, Pakistan showed commitment to work on addressing these deficiencies under a comprehensive action plan. SBP was the lead for action points related to Supervision of Financial Institution and implementation of Targeted Financial Sanctions in financial institutions. SBP prepared a comprehensive report on all relevant action points and submitted it to Joint Group (JG) of FATF and APG officials for this purpose. Subsequently, SBP officials also participated in face-to-face meetings held with JG officials. The FATF team conducted an on-site visit of Pakistan in August 2022 to assess Pakistan's progress under the FATF's Action Plans of 2018 and 2021. Following the joint efforts of SBP and other government institutions, Pakistan was finally

222 BPRD Circular No. 04 of 2018.
223 BPRD Circular Letter No. 34 of 2022.
224 BPRD Circular No. 07 of 2023.
225 BPRD Circular No. 02 of 2023.

removed from the list of countries under increased monitoring in October 2022.

Introduction of Digital banks: Technological advancement plays a pivotal role in the development of the financial sector. SBP is cognizant of this and encourages technology-based innovations to transform the financial ecosystem in a sustainable manner. SBP has always endeavored to provide an enabling regulatory landscape for nurturing digital innovations while ensuring stability, safety and soundness of the country's banking sector. During the year under review, SBP introduced a licensing and regulatory framework for setting up digital banks in Pakistan in line with international best practices.[226] The primary objectives of this framework is to leverage on digital banks for the enhancement of financial inclusion, provision of cost effective digital financial services especially to unserved and underserved segments of the society and foster a new set of customer experience. This initiative by SBP garnered interest from various domestic and international players. SBP received twenty applications to set up digital banks from a range of diverse players including commercial banks, MFBs, EMIs and Fintech firms. As a first step, SBP issued no objection certificates (NOC) to five of these applicants after a thorough and rigorous assessment process as per the requirements of the framework. Following the NOCs, applicants are required to incorporate their firms as public limited company with Securities and Exchange Commission of Pakistan (SECP). After that, they will approach SBP for an In-Principle Approval for demonstrating operational readiness and for commencement of operations under the pilot phase. Subsequently, these applicants will be able to commercially launch their operations after obtaining SBP's final approval.[227]

Review of prudential standards on exposure to equity and capital market: SBP revised the sections of prudential regulations for commercial/ corporate banking pertaining to exposure of banks in shares and TFCs/ Sukuk during the year under review. The investment limits of banks/ DFIs were previously linked with their balance sheet equity (which is calculated on going-concern assumption); now limits are linked with Tier-I Capital of the institutions under Basel capital standards (which uses more conservative approach of gone concern for calculating the capital). Banks/ DFIs can also invest in Startups up to 5 percent of their Tier-I Capital or PKR 500 million, whichever is lower. For REITs, a bank/ DFI can invest in them up to 5 percent of its Tier-I Capital or 15 percent of paid-up shares of Investee Company, whichever is lower.[228]

Liquidity management of DFIs – eligibility for OMOs: SBP conducts OMOs to keep the money market overnight repo rate close to the SBP Target "Policy Rate". Previously, all Scheduled Banks and Primary Dealers were allowed to participate in these OMOs.[229] During the year under review, SBP also allowed DFIs to participate in OMOs with a view to facilitate them in their liquidity management.[230]

Systemic Risk Survey: SBP conducts Systemic Risk Surveys (SRS) on a biannual basis to gauge and assess the views of the market participants and independent experts about the existing and prospective risks to financial stability and effectiveness of its policy framework. In this regard, the 9th and 10th waves of the survey were conducted during CY22, while the 11th survey was conducted in Jan-23 (See **results of the 11th wave in Box 1, Overview section**).

Publication of SBP's assessments of financial stability: SBP regularly shares its assessment of financial stability with external stakeholders to keep them abreast with emerging risks,

[226] BPRD Circular No. 01 of 2022.
[227] SBP Press Release, dated January 13, 2023.
[228] BPRD Circular Letter No. 04 of 2022.
[229] DMMD Circular No. 12 of 2017.
[230] DMMD Circular No. 11 of 2022.

resilience of the system and its latest financial soundness performance. In this connection, SBP published Quarterly Compendium of Banking Statistics and FSIs, Mid-year Performance Review of banking sector for H1CY22, annual Financial Stability Review CY21, and Governor's Report to the parliament for FY22.

International cooperation: Exchange of information and experiences helps in better understanding the challenges faced by financial systems. As such, SBP played an active role in information sharing by contributing to various regional and international studies and sharing feedback on different international surveys. SBP also participated in FSB Regional Consultative Group for Asia (RCG Asia) meetings virtually, where vulnerabilities and financial stability issues affecting Asia were discussed, along with other emerging issues e.g., risks arising from climate change, cyber security, and cross-border payments, etc.

The Governor-SBP, was also appointed as the Chairman of the Council of Islamic Financial Services Board (IFSB), Malaysia for the year 2022. His appointment was approved by the IFSB Council in its 39th meeting held on December 9, 2021 in Abu Dhabi, United Arab Emirates (UAE). He had been serving earlier as the Deputy Chairman of the IFSB Council for the year 2021. Governor-SBP also served as the Chairman of the IFSB General Assembly for the year 2022. The General Assembly is the representative body of all the members of the IFSB, namely Full Members, Associate Members and Observer Members.[231]

Financial Stability – A Micro Perspective

The following leading improvements were made in regulatory and supervisory processes for regulated institutions:

Risk-based supervision (RBS) framework: SBP implemented forward-looking risk-based supervision framework that aims for early identification of risks and problems in regulated entities and taking corrective measures promptly. To support RBS framework, SBP also developed different business intelligence tools, e.g., Bank Risk Analysis and Monitoring (BRAM) system for monitoring of regulated entities using key financial indicators and financial information reported by the FIs to SBP. Moreover, Credit Risk Analysis and Monitoring (CRAM) system has been instituted for monitoring of credit risk of regulated entities using borrower level data reported by the FIs. These systems are being upgraded with enhanced features, and capacity building sessions are being conducted for the supervisory staff for effective utilization of these tools to encourage data driven supervisory approach. A dedicated institutional arrangement was put in place to review and assess the microenvironment and sectoral analysis for informing the profiles and direction of risks faced by the institutions.

Review of Shariah-compliance assessment manual: In the backdrop of transformation of SBP's supervisory regime and evolution of regulatory framework, SBP conducted a holistic review of the Shariah-Compliance Assessment Manual to synchronize it with the RBS Manual and incorporate relevant instructions since last review of the manual and defining broader scope of Shariah Rules and Principles for Supervisors.

Regulatory approval system: SBP developed and rolled out a Regulatory Approval System (RAS) in 2020 to strengthen the organizational efficiency and effectiveness.[232] RAS provides a secured online portal to regulated entities to submit their requests and proposals and to subsequently receive regulatory decisions in digital and secured mode. RAS was initially implemented for the Banking Policy & Regulations Department (BPRD) and Exchange Policy Department (EPD). Similarly, RAS for Payment Systems Policy & Oversight

[231] SBP Press Release, dated December 10, 2021.

[232] EPD Circular Letter No. 08 of 2020.

Department (PSP&OD) was completed and rolled out for industry-wide implementation during the year under review.[233]

In another effort to promote the use of digital channels to enhance operational efficiency and improve ease of doing business, SBP, during the year under review, digitized and centralized the functions of Export Finance Scheme (EFS)/Islamic Export Refinance Scheme (IERS) at SBP BSC Karachi. A new operational mechanism was developed on SBP's online RAS portal in consultation with banks, which will serve as an online platform for transmission of EFS related information between SBP BSC and banks. Banks were also advised to strengthen their internal controls for processing of EFS/IERS cases to avoid operational, reputational, legal or any other risk.[234]

Monitoring and assessment of fraud and cybersecurity risks: SBP monitors digital banking frauds and performs assessments of high-risk institutions. SBP introduced a new format for collection of data on digital banking frauds and scams to understand the digital channels exploited by fraudsters in different financial products and services.[235] SBP also regularly engages with various banks and MFBs to take specific measures to reduce the number of digital banking frauds.

SBP also performs both offsite and onsite cybersecurity assessment to monitor cyber security risk in the industry. Cyber Hygiene controls and practices are essential in providing baseline fortification against cyber-attacks. In view of this, SBP initiated assessment of Cyber Hygiene practices in the industry. Further, considering the significance of IT Change Management, SBP engaged with some financial institutions to eliminate deficiencies, where observed, to improve the related controls and practices.

Monitoring of financial markets and platforms: SBP continuously works to ensure smooth functioning of financial markets. After observing elevated volatility in exchange rate during the year under review, SBP enhanced the monitoring of operations of the exchange companies, inter alia, to ensure market discipline, discourage speculative activities in currency market and proceeded against delinquent companies.

SBP issued an advisory against Illegal Offshore Foreign Exchange Trading Websites, Mobile Applications and Platforms, wherein authorized dealers (banks and exchange companies) were advised to undertake necessary measures to stop payments to all such forex trading platforms.[236] SBP evaluated the modus operandi of International Electronic Trading Platforms such as Octa FX, Exness, XM, EasyForex, etc. for cross border deposit and withdrawal of foreign exchange by the public. These digital platforms attract people through social media advertisements to buy or invest in their products or services e.g., foreign exchange trading, margin trading, contract for differences, etc.

Measures to promote digital finance and augment payment systems

Instant Payment System i.e., Raast: SBP had introduced Pakistan's Instant Payment System "Raast" to offer instant, reliable and free person-to-person payment services to the people of Pakistan with the objective of promoting digital financial services and financial inclusion. The first phase of the system, "Raast - Bulk Payments", was launched in January 2021 and is live since then. The second phase of Raast, which enables instant Person-to-Person (P2P) fund transfers and settlement, was launched during the year under review.[237] The Raast P2P facilitates individuals to transfer payments to other individuals

[233] PSPOD Circular No 02 of 2022.
[234] IH&SMEFD Circular No. 01 of 2022.
[235] BC&CPD Circular Letter No. 03 of 2022.
[236] EPD Circular Letter No. 08 of 2022.
[237] DI&SD Circular No. 1 of 2022.

including their family members or friends across the country in an instantaneous and secure manner.

Mobile App Security Guidelines: Mobile payment applications (mobile apps) have become an alternate payment channel for a growing number of users. SBP regulated entities have been offering innovative products and services through mobile applications. Consequently, opportunities for the fraudsters to exploit vulnerabilities in mobile apps and defraud the customers have also increased manifold. In line with international standards and best practices, SBP developed and issued comprehensive Mobile App Security Guidelines providing baseline security requirements for app owners to ensure confidentiality and integrity of customer data and availability of app services in a secure manner when developing payment applications for mobile or other smart devices.[238]

Standardization of QR Code Based Payments in Pakistan: In a major push to accelerate digitization of retail payments, SBP issued Pakistan's indigenous Standards for Quick Response (QR) code-based payments in March 2022. The QR standards have been separately issued for both Person-to-Person and merchant-based payments that will also complement Raast. With the issuance of a single countrywide QR code standard, Pakistan joins the list of countries who have taken similar steps to promote low-cost digitization of payment services, especially at retail level. The objective of the standards was to ensure full interoperability among various QR issuing institutions and to provide a single QR on which information of multiple payment schemes and processors can be embedded, allowing the customer to choose from a range of available schemes. This step will facilitate customers in making payments digitally to people and merchants as well as help merchants to accept payments digitally and with minimal ancillary costs.[239]

Service Standards for Enablement of Minimum Set of Services on Mobile Applications for RDA Customers: SBP, in 2020, launched Roshan Digital Account (RDA) scheme, in a bid to enable Non-Resident Pakistanis (NRPs) to open and operate account without lengthy documentation, and from the comfort of their homes. The RDA initiative has been a key stepping stone for SBP to provide a mechanism for Digital Onboarding of Resident Pakistanis as well, which was later launched in 2021. In a bid to enhance the user experience for existing and prospective RDA clientele globally, SBP issued instructions to RDA banks in August 2022 for enabling a minimum set of services including client onboarding platform, transactional facility, investment services and financing products through a fully functioning bank's mobile application, that becomes a one-stop solution for the RDA customers.[240]

Foreign Exchange Policy and Operations:

The stability of the external account is crucial for financial and economic stability of the country. SBP, during the year under review, undertook various measures to support the balance of payment by encouraging inflows and better management of scarce foreign exchange resources.

Encouraging Remittances: SBP together with the Government of Pakistan has introduced various policy initiatives over the time to facilitate the flow of home remittances through formal channels. To further encourage the exchange companies (ECs) to mobilize home remittances, the government started an incentive program of PKR 1 for each USD of home remittances surrendered in interbank market, provided that the ECs surrender 100%

[238] PSPOD Circular No 01 of 2022.
[239] DI&SD Circular Letter No. 1 of 2022.
[240] DI&SD Circular Letter No. 03 of 2022.

of the foreign exchange received as inward home remittances.[241]

To facilitate the disbursement of proceeds to expatriates' families in Pakistan, SBP allowed ECs to enter into agreements with the authorized dealers (ADs) to act as their sub-agents for disbursement of home remittances in PKR to beneficiaries, received by ADs through their international tie-ups.[242] Further, SBP advised ADs to digitize the process for issuance and verification of the Proceeds Realization Certificates (PRCs) on account of receipt of remittances from abroad through ADs.[243]

Foreign Reserves Management: To provide immediate support to the balance of payments, SBP temporarily mandated the prior permission of SBP before initiating transactions for import of certain goods.[244 & 245] These instructions were later on withdrawn. However, ADs were encouraged to prioritize essential imports, energy imports, imports of export-oriented industry, imports for agricultural inputs, deferred payment/ self-funded imports, and imports for export-oriented projects near completion.[246]

Foreign Exchange Policies: In an effort to further strengthen the regulatory regime for ECs and encourage customers to use banking channels for purchase of foreign exchange from ECs, SBP amended the existing regulations prescribing the scope of business of ECs during the year.[247]

To promote documentation and transparency in the foreign exchange transactions, SBP directed that currency exchange transactions between ECs, ECs-B Category and franchises of ECs shall be conducted through their bank accounts.[248] SBP also increased the frequency of transaction data reporting by ECs and ECs-B Category to enhance the monitoring.[249]

To facilitate foreign portfolio investment in the country through International Broker Dealers (IBD), SBP decided to allow general permission to ADs for remitting the share of commission to such IBDs by Local Broker Dealers (LBD).[250]

Environment/ Climate Change and Social Risks:

SBP issued Green Banking Guidelines (GBG) in October 2017 to safeguard against environmental risks emerging from banks and DFIs' businesses and operations. These guidelines deal with the areas of risk management, business facilitation, and own impact reduction. These were introduced with an aim to reduce potential losses of banks and DFIs through proper management of environmental vulnerability of their financing portfolios. These could also augment banks' and DFIs' profitability by increasing investments in relatively untapped segments of environmentally-compliant, resource-efficient and socially-responsible businesses.[251] During the year under review, SBP issued the Environmental and Social Risk Management (ESRM) Implementation Manual. The Manual provides tools and procedures to strengthen and accelerate the implementation of the risk management section of Green Banking Guidelines. The key features of the Manual include more focus on social and climatic risks, which are becoming relevant and crucial for Pakistan, a comprehensive Environmental & Social Management System (ESMS) for systematic guidance of banks and DFIs, a robust and quantitative risk rating system, an E&S Due Diligence checklist, supervision checklist, and a Green Banking Monitoring & Evaluation Reporting Template for reporting of

241 EPD Circular Letter No. 03 of 2022.
242 EPD Circular Letter No. 12 of 2022.
243 FE Circular No. 05 of 2022.
244 EPD Circular Letter No. 09 of 2022.
245 EPD Circular Letter No. 11 of 2022.
246 EPD Circular Letter No. 20 of 2022.
247 EPD Circular Letter No. 15 of 2022.
248 EPD Circular Letter No. 17 of 2022.
249 EPD Circular Letter No. 19 of 2022.
250 FE Circular No. 02 of 2022.
251 IH&SMEFD Circular No. 08 of 2017.

banks/DFIs' progress on implementation of the guidelines (including ESRM activities) to SBP. Banks and DFIs are expected to fully implement the ESRM within three years of issuance of the Manual.[252]

Islamic Banking:

With an aim to further strengthen Shariah compliance framework and harmonize the Shariah practices in Islamic banking industry, SBP adopted 'Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI)' Shariah Standards. The AAOIFI Shariah Standards No. 10 (Salam and Parallel Salam), No. 11 (Istisna'a and Parallel Istisna'a), No. 25 (Combination of Contracts) and No. 50 (Irrigation Partnership (Musaqat) were adopted subject to certain clarifications and amendments, during the year under review. These standards were adopted in addition to existing regulations, instructions and directives that have been issued by SBP from time to time.[253]

During the year under review, Federal Shariah Court (FSC) ordered the fuller implementation of Islamic banking and Islamization of the economy by end 2027. SBP has been committed towards the development of Islamic banking system in the country. In order ensure transition of banking system to Shariah-compliant mode, SBP has taken a number of measures over the years which are given in Box 3.2.

Development Finance and Financial Inclusion:

Under the SBP Act, 1956, SBP has the objective to support the government's general economic policies and contribute to the development and fuller utilization of Pakistan's productive resources. As such, SBP undertakes various initiatives aiming at sustainable economic growth in Pakistan's economy. These initiatives are mainly targeted at the agricultural sector, micro, small and medium enterprises, and increasing access to financial services.

SBP, in February 2022, published report viz. Indicative Credit Limits and Eligible Items for Agriculture Finance and revised the indicative credit limits for agriculture financing to align the same with the input requirements of agriculture sector. The report will also facilitate provincial planning departments in estimating the total financial and credit requirements of respective provinces and regions for farm and non-farm sectors.[254]

In August 2022, SBP also revised the per acre indicative credit limits for agriculture financing considering the increase in cost of production i.e., seeds, fertilizers, fuel, labor etc. The increased indicative limits were aimed at enabling farmers to obtain more credit from banks and enhance agriculture productivity through adequate use of inputs.[255]

SBP amended the prudential regulations for agricultural financing to enhance the maximum limit of clean financing for agriculture and the exposure limit for the requirement of financial statements. These amendments were aimed at enabling banks and DFIs to enhance flow of credit to farm and non-farm sectors.[256]

To facilitate recovery of farmers in the rain and flood affected areas, SBP facilitated government of Pakistan in introducing three schemes including Markup Waiver Scheme for subsistence farmers, Markup Subsidy Scheme for revival of agriculture/livestock sectors, and Interest Free Loans and Risk Sharing Scheme for Landless Farmers.[257]

SBP, on behalf of the government, has allocated additional funds to the existing Line of Credit (LoC) facility housed at SBP. The said amount will be disbursed to the flood affected areas

[252] IH&SMEFD Circular Letter No. 12 of 2022.
[253] IBD Circular No. 01 of 2022.
[254] AC&MFD Circular No. 1 of 2022.
[255] AC&MFD Circular Letter No. 01 of 2022.
[256] AC&MFD Circular Letter No. 02 of 2022.
[257] AC&MFD Circular No. 03 of 2022.

after its allocation in Public Sector Development Program (PSDP). The primary purpose of this facility is to revive livelihood and economic activities in the affected areas by alleviating the liquidity pressure of microfinance institutions through market mechanism.

SBP also supported government in the implementation of Markup Subsidy and Risk Sharing Scheme for Farm Mechanization during the year under review. The scheme was introduced to enhance agriculture productivity and food security in the country.[258]

SBP in collaboration with Prime Minister Youth Office launched Prime Minister Youth Business & Agriculture Loan Scheme (PMYB&ALS) in December 2022 to provide business and agriculture loans. The government is also providing risk coverage of up to 50 percent on the disbursed portfolio of banks. Realizing the difficulties of entrepreneurs and farmers in arranging collateral, collateral requirement for loans up to PKR 1.5 million was waived. The scheme put greater focus on women entrepreneurs as 25% of loans were allocated for female youth entrepreneurs.[259]

To accelerate the process of financial inclusion of SMEs in Pakistan, SBP provided full support to government of Pakistan in formulation of National SME Policy 2021 which was notified in February 2022. In line with targets prescribed in National SME Policy 2021, SBP assigned the SME financing targets to all banks and DFIs for next four years i.e., CY-2022 to CY-2025. SBP is closely monitoring the performance of banks and DFIs against the assigned targets.[260]

SBP also adopted a unified national SME definition prescribed in SME Policy 2021, which is based on single criteria of annual sales turnover.[261] The unified SME definition will help SMEs to benefit from available government programs and fiscal incentives. It will also help in designing targeted programs to serve specific categories of SMEs based on their activities and performance in the light of national development perspectives.

To improve access to finance for SME sector, SBP launched a Challenge Fund for SMEs (CFS) to support innovative solutions for SME banking in the country. This fund in the form of grant was aimed at facilitating banks in developing innovative technological solutions to cater to the banking needs of SME sector. This initiative will also enable the banks to increase the access and usage of digital financial services by SME sector.[262]

SBP had enhanced the maximum loan sizes along with corresponding borrowers' eligibility criteria under all loan categories to adequately serve financial needs of microenterprises and housing finance borrowers in 2014 and 2020. During the year under review, SBP revised the Prudential Regulations for Microfinance Banks to align classification and provisioning requirements with enhanced loan sizes.[263]

SBP, during the year under review, enhanced the scope of the Export Finance Scheme by introducing a Rupee-based discounting facility for export bills and receivables.[264]

SBP also linked the end user markup rates under export finance and LTFF schemes to SBP policy rate i.e., keeping these rates at 3 percent below policy rate. Accordingly, with any change in the policy rate, markup rates for export refinance and LTFF will be revised automatically.[265]

In February 2022, SBP revised pricing of Tier 1 of Mera Pakistan Mera Ghar (MPMG) scheme downward to improve affordability of low-cost

258 AC&MFD Circular No. 04 of 2022.
259 IH&SMEFD Circular No. 12 of 2022.
260 Quarterly SME Finance Review, Dec 2022.
261 IH&SMEFD Circular No. 05 of 2022.
262 IH&SMEFD Circular No. 04 of 2022.
263 AC&MFD Circular No. 02 of 2022.
264 IH&SMEFD Circular No. 03 of 2022.
265 SH&SFD Circular No. 13 of 2022.

housing for eligible borrowers who qualified the requirements for allotment of housing units in Naya Pakistan Housing & Development Authority (NAPHDA) projects.[266]

During the year under review, SBP also increased mandatory targets for housing and construction finance to at least 7 percent of banks' domestic private sector advances.[267] However, these mandatory targets were converted to indicative targets with an extension in time period of six months.[268] Later on, on the advice of government, disbursement of financing under MPMG was suspended with effect from June 30, 2022. However, banks were allowed to disburse financing to customers who had already availed partial disbursement or were at advance stage for availing disbursement at the time of suspension of MPMG on June 30, 2022.[269]

[266] IH&SMEFD Circular Letter No. 03 of 2022.
[267] IH&SMEFD Circular No. 02 of 2022.
[268] IH&SMEFD Circular Letter No. 08 of 2022.
[269] IH&SMEFD Circular Letter No. 10 of 2022.

Appendix B

Indicators used to derive Financial Sector Vulnerability Index (FSVI)

FSVI was first introduced in FSR 2016, and since then it has been modified and regularly published in the subsequent reviews. In FSR-2018, few modifications were made in terms of coverage, indicators and methodology (See Appendix A in FSR-2018).

To recall, FSVI is a composite index derived from averaging the sub-indices of macro-economy, financial markets, banking sector, Non-Banking Financial Institutions, Development Finance Institutions, Insurance Companies and Corporate Sector. The complete list of indicators used within each dimension is given in the table below:

Table 1: FSVI and FSHM: Risk Areas, Risk Dimensions and Indicators				
Sr. No.	Risk Area	Risk Dimension	Risk Indicator(s)	Impact on Financial Stability
1	Macro-economy $\frac{1}{n}\sum Ex, R, F, In$ n = 4	External Sector (Ex) $Ex = \frac{1}{n}\sum_{i=1}^{n} ex_i,$ $n = 3$	*ex_1 = Total Liquid Foreign Reserve Position (with SBP) as percent of GDP* *ex_2 = Current Account Balance as Percentage of GDP* *ex_3 = Balance of Trade as Percentage of GDP*	Positive Positive Positive
		Real Sector (R)	*Real GDP Growth*	Positive
		Fiscal Sector (F)	Fiscal Deficit as Percentage of GDP	Negative
		Inflation (In)	CPI inflation	Negative
2	Financial Markets $\frac{1}{n}\sum FE, MM, CM$ n = 3	Foreign Exchange (FE)	*Mark-to-market Revaluation Exchange Rate Exponential Moving Weighted Average (EMWA) Volatility*	Negative
		Money Market (MM)	*Overnight Repo Rate Exponential Moving Weighted Average (EMWA) Volatility*	Negative
		Capital Market (CM)	*KSE-100 Index Exponential Moving Weighted Average (EMWA) Volatility*	Negative
3	Banking Sector $\frac{1}{n}\sum C, AQ, E, L, D, I$ n = 6	Capital Adequacy (C) $C = \frac{1}{n}\sum_{i=1}^{n} c_i, n = 3$	*c_1= Capital Adequacy Ratio(CAR)* *c_2=TIER 1 (CAR)* *c_3=Capital to Asset Ratio*	Positive Positive Positive
		Asset Quality (AQ) $AQ = \frac{1}{n}\sum_{i}^{n} aq_i,$ $n = 4$	*aq_1 = NPLs to Total Loans* *aq_2 = Net NPLs to Capital* *aq_3 = Provisions to NPLs* *aq_4 = Loss to NPLs*	Negative Negative Positive Negative
		Earnings (E) $E = \frac{1}{n}\sum_{i=1}^{n} e_i,$ $n = 6$	*e_1= Return on Assets Before Tax* *e_2=Return on Equity (Avg. Equity and Surplus) Before Tax*	Positive Positive Positive Positive

			e_3 = *Net Interest Margin* e_4 = *Net Interest Income/Gross Income* e_5 = *Cost to Income Ratio* e_6 = *Trading Income to Total Income*	Negative Negative
		Liquidity (L) $L = \frac{1}{n}\sum_{i=1}^{n} l_i,$ $n = 3$	l_1= *Liquid Assets/Total Assets* l_2= *Liquid Assets/Total Deposits* l_3= *Liquid Assets/Short term liabilities*	Positive Positive Positive
		Deposits (D) $D = \frac{1}{n}\sum_{i=1}^{n} d_i,$ $n = 2$	d_1= *Deposits to Assets* d_2= *Deposit growth (YoY)*	Positive Positive
		Interconnectedness (I) $I = \frac{1}{n}\sum_{i=1}^{n} i_i,$ $n = 2$	i_1= *Call lending and borrowing/Total Assets* i_2= *Financial Liabilities (SBP exclusive)/Total Assets*	Negative Negative
4	Non-Banking Financial Institutions $\frac{1}{n}\sum A, E$ n = 2	Assets (A)	*Asset Growth (YoY)*	Positive
		Earnings (E)	*Net Sales*	Positive
5	Development Finance Institutions $\frac{1}{n}\sum C, AQ, E, L$ n = 4	Capital Adequacy (C) $C = \frac{1}{n}\sum_{i=1}^{n} c_i, n = 3$	c_1= *Capital Adequacy Ratio(CAR)* c_2=*TIER 1 (CAR)* c_3=*Capital to Asset Ratio*	Positive Positive Positive
		Asset Quality (AQ) $AQ = \frac{1}{n}\sum_{i}^{n} aq_i,$ $n = 3$	aq_1 = *NPLs to Total Loans* aq_2 = *Net NPLs to Capital* aq_3 = *Net NPLs to Net Loans*	Negative Negative Negative
		Earnings (E) $E = \frac{1}{n}\sum_{i=1}^{n} e_i,$ $n = 4$	e_1= *Return on Assets Before Tax* e_2=*Return on Equity (Avg. Equity and Surplus) Before Tax* e_3 = *Net Interest Income/Gross Income*	Positive Positive Positive Negative

			e_4 = *Cost to Income Ratio*	
		Liquidity (L) $L = \frac{1}{n}\sum_{i=1}^{n} l_i,$ $n = 3$	l_1= *Liquid Assets/Total Assets* l_2= *Liquid Assets/Total Deposits* l_3= *Advances/Deposits*	Positive Positive Positive
6	Insurance Companies $\frac{1}{n}\sum Li, NL$ n = 2	Life (Li) $\mathrm{Li} = \frac{1}{n}\sum_{i=1}^{n} \mathrm{li}_i,$ $n = 4$	li_1= *Claims ratio* li_2= *Return on Assets before tax* li_3= *Return on Investment before tax* li_4= *Capital to Assets*	Negative Positive Positive Positive
		Non-life (NL) $\mathrm{NL} = \frac{1}{n}\sum_{i=1}^{n} \mathrm{nli}_i,$ $n = 5$	nli_1= *Claims ratio* nli_2= *Premium Retention* nli_3= *Return on Assets before tax* nli_4= *Return on Investment before tax* nli_5= *Capital to Assets*	Negative Negative Positive Positive Positive
7	Corporate Sector	Corporate Debt	*Debt Burden (average of asset/equity and debt/equity)*	Negative

Annexure A

Annexure I - Balance Sheet and Profit & Loss Statement of Banks

PKR million

BALANCE SHEET	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
ASSETS					
Cash & Balances With Treasury Banks	1,574,551	1,987,096	2,014,703	2,276,963	1,829,335
Balances With Other Banks	147,829	232,671	277,988	253,008	265,732
Lending To Financial Institutions	909,754	978,640	1,079,071	1,095,663	1,132,188
Investments - Net	7,913,923	8,939,438	11,934,634	14,554,438	18,400,000
Advances - Net	7,955,195	8,248,973	8,291,572	10,120,509	11,818,241
Operating Fixed Assets	437,235	596,924	626,251	704,729	824,231
Deferred Tax Assets	81,082	74,052	91,820	133,061	202,613
Other Assets	662,485	933,542	807,816	919,931	1,323,191
TOTAL ASSETS	**19,682,054**	**21,991,337**	**25,123,855**	**30,058,303**	**35,795,532**
LIABILITIES	-				
Bills Payable	243,237	231,178	313,827	328,566	439,979
Borrowings From Financial Institution	3,001,186	2,932,082	3,216,866	4,738,036	7,845,098
Deposits And Other Accounts	14,254,210	15,953,489	18,518,525	21,719,885	23,461,394
Sub-ordinated Loans	111,713	123,218	121,854	122,815	161,581
Liabilities Against Assets Subject To Finance Lease	7	7,446	7,534	8,025	8,268
Deferred Tax Liabilities	34,557	43,602	46,549	29,319	9,793
Other Liabilities	631,529	1,042,073	1,036,267	1,170,116	1,783,706
TOTAL LIABILITIES	**18,276,439**	**20,333,089**	**23,261,422**	**28,116,763**	**33,709,818**
NET ASSETS	**1,405,615**	**1,658,248**	**1,862,433**	**1,941,540**	**2,085,713**
NET ASSETS REPRESENTED BY:					
Share Capital	541,040	556,886	556,131	568,000	592,776
Reserves	315,570	349,529	392,599	445,470	509,887
Unappropriated Profit	433,205	521,807	642,965	721,894	873,629
Share Holders' Equity	**1,289,816**	**1,428,222**	**1,591,696**	**1,735,364**	**1,976,291**
Surplus/Deficit On Revaluation Of Assets	115,799	230,026	270,737	206,176	109,422
TOTAL	**1,405,615**	**1,658,248**	**1,862,433**	**1,941,540**	**2,085,713**

PROFIT AND LOSS STATEMENT	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Mark-Up/ Return/Interest Earned	1,153,383	1,851,790	1,924,328	1,831,650	3,420,449
Mark-Up/ Return/Interest Expenses	608,309	1,156,062	1,071,898	992,650	2,243,024
Net Mark-Up / Interest Income	**545,074**	**695,727**	**852,430**	**839,000**	**1,177,424**
Provisions & Bad Debts Written Off Directly/(Reversals)	36,201	67,855	123,039	50,405	58,768
Net Mark-Up / Interest Income After Provision	**508,873**	**627,872**	**729,391**	**788,595**	**1,118,656**
Fees, Commission & Brokerage Income	112,852	123,895	118,322	142,803	173,148
Dividend Income	13,589	12,325	10,810	18,003	21,681
Income From Dealing In Foreign Currencies	25,981	26,269	21,854	34,746	80,448
Other Income	25,698	19,628	65,920	43,161	23,193
Total Non - Markup / Interest Income	**178,121**	**182,117**	**216,906**	**238,713**	**298,470**
	686,993	809,989	946,298	1,027,308	1,417,126
Administrative Expenses	430,375	495,018	521,253	565,230	704,573
Other Expenses	5,068	10,517	13,690	10,987	9,531
Total Non-Markup/Interest Expenses	**435,444**	**505,535**	**534,943**	**576,216**	**714,104**
Profit before Tax and Extra ordinary Items	251,550	304,454	411,355	451,092	703,022
Extra ordinary/unusual Items - Gain/(Loss)	9,015.91	48.78	-	-	-
PROFIT/ (LOSS) BEFORE TAXATION	**242,534**	**304,405**	**411,355**	**451,092**	**703,022**
Less: Taxation	93,194	133,656	167,315	186,870	366,532
PROFIT/ (LOSS) AFTER TAX	**149,340**	**170,749**	**244,039**	**264,222**	**336,490**

Annexure II - Financial Soundness Indicators of the Banking Sector

percent

Indicators	Dec-18	Dec-19	Dec-20	Dec-23	Dec-22
CAPITAL ADEQUACY					
Risk Weighted CAR^	16.2	17.0	18.6	16.7	17.0
Tier 1 Capital to RWA	13.2	14.0	14.8	13.5	14.2
Capital to Total Assets	7.1	7.2	7.2	6.3	5.9
ASSET QUALITY					
NPLs to Total Loans	8.0	8.6	9.2	7.9	7.3
Provision to NPLs	83.8	81.4	88.3	91.2	89.5
Net NPLs to Net Loans	1.4	1.7	1.2	0.7	0.8
Net NPLs to Capital^^	7.8	8.9	5.3	4.0	4.6
EARNINGS					
Return on Assets (Before Tax)	1.3	1.5	1.8	1.6	2.1
Return on Assets (After Tax)	0.8	0.8	1.0	1.0	1.0
ROE (Avg. Equity& Surplus) (Before Tax)	17.4	20.1	23.2	24.0	35.3
ROE (Avg. Equity &Surplus) (After Tax)	10.7	11.3	13.8	14.1	16.9
NII/Gross Income	75.4	79.3	79.7	77.9	79.8
Cost / Income Ratio	60.2	57.6	50.0	53.5	48.4
LIQUIDITY					
Liquid Assets/Total Assets	48.7	49.7	54.8	55.4	56.6
Liquid Assets/Total Deposits	67.2	68.4	74.3	76.7	86.4
Advances/Deposits	55.8	51.7	44.8	46.6	50.4

^ Data for Dec-13 and onwards is based on Basel III, and data from CY08 to Sep-13 is based on Basel II with the exception of IDBL,PPCBL, and SME Bank, which is based on Basel I.

^^ Effective from June 30, 2015, Regulatory Capital, as defined under Basel requirements, has been used to calculate Net NPLs to Capital Ratio. Prior to Jun-15, Balance Sheet Capital was used for calculation of this ratio.

Annexure III - Balance Sheet and Profit & Loss Statement of MicroFinance Banks

PKR million

BALANCE SHEET	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
ASSETS					
Cash & Balances With Treasury Banks	16,279	17,624	23,900	28,991	43,814
Balances With Other Banks	24,912	40,777	53,236	57,931	24,589
Lending To Financial Institutions	10,533	6,242	12,387	1,052	15,476
Investments - Net	54,576	52,169	96,774	133,419	228,199
Advances - Net	185,346	206,965	231,047	278,318	342,358
Operating Fixed Assets	10,819	25,062	23,825	24,689	25,210
Deferred Tax Assets	1,237	1,768	2,531	4,687	14,141
Other Assets	24,239	29,404	50,283	53,017	59,194
TOTAL ASSETS	**327,940**	**380,011**	**493,984**	**582,104**	**752,982**
LIABILITIES					
Bills Payable	1,837	687	758	1,079	702
Borrowings From Financial Institution	21,495	19,808	26,909	59,022	137,025
Deposits And Other Accounts	238,561	266,195	373,084	422,998	515,760
Sub-ordinated Loans	1,672	8,472	8,672	9,041	12,391
Liabilities Against Assets Subject To Finance Lease	-	-	-	-	-
Deferred Tax Liabilities	0	-	-	-	-
Other Liabilities	15,404	34,428	34,384	33,262	43,382
TOTAL LIABILITIES	**278,970**	**329,590**	**443,806**	**525,401**	**709,261**
NET ASSETS					
NET ASSETS REPRESENTED BY:					
Share Capital	27,652	29,323	37,850	36,609	42,196
Reserves	11,015	21,634	23,747	41,401	46,122
Unappropriated Profit	10,238	(580)	(11,567)	(20,829)	(44,225)
Share Holders' Equity	**48,905**	**50,376**	**50,030**	**57,181**	**44,094**
Surplus/Deficit On Revaluation Of Assets	(6)	(19)	133	(487)	(408)
Deferred Grants/Subsidies	71	64	12	9	35
TOTAL	**48,970**	**50,421**	**50,175**	**56,703**	**43,721**
PROFIT AND LOSS STATEMENT					
Mark-Up/ Return/Interest Earned	50,564	66,841	75,284	78,436	105,207
Mark-Up/ Return/Interest Expenses	15,834	26,246	30,426	32,067	53,918
Net Mark-Up / Interest Income	**34,731**	**40,595**	**44,858**	**46,368**	**51,289**
Provisions & Bad Debts Written Off Directly/(Reversals)	4,135	13,089	11,612	16,291	22,823
Net Mark-Up / Interest Income After Provision	**30,596**	**27,506**	**33,246**	**30,077**	**28,466**
Fees, Commission & Brokerage Income	13,097	13,859	11,976	14,720	21,631
Dividend Income	3	14	14	-	-
Income From Dealing In Foreign Currencies	-	-	-	-	-
Other Income	865	1,501	1,294	2,195	2,391
Total Non - Markup / Interest Income	**13,965**	**15,373**	**13,284**	**16,915**	**24,022**
Administrative Expenses	36,082	48,098	49,246	52,990	70,802
Other Expenses	476	709	638	822	3,211
Total Non-Markup/Interest Expenses	**36,558**	**48,807**	**49,883**	**53,812**	**74,013**
Profit before Tax and Extra ordinary Items	8,003	(5,929)	(3,354)	(6,820)	(21,525)
Extra ordinary/unusual Items - Gain/(Loss)	-	-	-	-	-
Subsidies received	11.86	5.33	55.79	25.06	33.19
PROFIT/ (LOSS) BEFORE TAXATION	**7,991**	**(5,934)**	**(3,409)**	**(6,845)**	**(21,558)**
Less: Taxation	3,385	2,183	2,474	1,235	(4,403)
PROFIT/ (LOSS) AFTER TAX	**4,606**	**(8,117)**	**(5,883)**	**(8,080)**	**(17,155)**

Annexure IV - Financial Soundness Indicators of the MicroFinance Banks

percent

Indicators	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
CAPITAL ADEQUACY					
Risk Weighted CAR	22.6	20.9	19.0	18.3	10.9
Capital to Total Assets	15.5	13.9	11.0	10.4	5.3
ASSET QUALITY					
NPLs to Total Loans	2.4	5.3	3.3	5.2	6.7
Provision to NPLs	92.1	70.0	106.5	78.1	78.8
Net NPLs to Net Loans	0.2	1.7	-0.2	1.2	1.5
Net NPLs to Capital^	0.7	6.5	-0.9	5.4	12.9
EARNINGS					
Return on Assets (Before Tax)	2.9	-1.7	-0.8	-1.3	-3.4
Return on Assets (After Tax)	1.7	-2.3	-1.4	-1.6	-2.7
ROE (Avg. Equity& Surplus) (Before Tax)	20.7	-12.4	-7.1	-12.7	-42.9
ROE (Avg. Equity &Surplus) (After Tax)	11.9	-16.9	-12.2	-15.0	-34.1
NII/Gross Income	71.3	72.5	77.2	73.3	68.1
Cost / Income Ratio	75.1	87.2	85.8	85.0	98.3
LIQUIDITY					
Liquid Assets/Total Assets	23.5	28.2	35.7	31.3	26.5
Liquid Assets/Total Deposits	32.4	40.3	47.3	43.1	38.6
Advances/Deposits	77.7	77.7	61.9	65.8	66.4

^ Effective from June 30, 2015, Regulatory Capital, as defined under Basel requirements, has been used to calculate Net NPLs to Capital Ratio. Prior to Jun-15, Balance Sheet Capital was used for calculation of this ratio.

Annexure V - List of Banks

Dec-21		Dec-22	
	A. Public Sector Com. Banks (5)		**A. Public Sector Com. Banks (5)**
1	First Women Bank Ltd.	1	First Women Bank Ltd.
2	National Bank of Pakistan	2	National Bank of Pakistan
3	Sindh Bank Ltd.	3	Sindh Bank Ltd.
4	The Bank of Khyber	4	The Bank of Khyber
5	The Bank of Punjab	5	The Bank of Punjab
	B. Local Private Banks (20)		**B. Local Private Banks (20)**
1	AlBaraka Bank (Pakistan) Ltd.	1	AlBaraka Bank (Pakistan) Ltd.
2	Allied Bank Ltd.	2	Allied Bank Ltd.
3	Askari Bank Ltd.	3	Askari Bank Ltd.
4	Bank AL Habib Ltd.	4	Bank AL Habib Ltd.
5	Bank Alfalah Ltd.	5	Bank Alfalah Ltd.
6	BankIslami Pakistan Ltd.	6	BankIslami Pakistan Ltd.
7	Dubai Islamic Bank Pakistan Ltd.	7	Dubai Islamic Bank Pakistan Ltd.
8	Faysal Bank Ltd.	8	Faysal Bank Ltd.
9	Habib Bank Ltd.	9	Habib Bank Ltd.
10	Habib Metropolitan Bank Ltd.	10	Habib Metropolitan Bank Ltd.
11	JS Bank Ltd.	11	JS Bank Ltd.
12	MCB Bank Ltd.	12	MCB Bank Ltd.
13	MCB Islamic Bank Ltd.	13	MCB Islamic Bank Ltd.
14	Meezan Bank Ltd.	14	Meezan Bank Ltd.
15	SAMBA Bank Ltd.	15	SAMBA Bank Ltd.
16	Silk Bank Ltd	16	Silk Bank Ltd
17	Soneri Bank Ltd.	17	Soneri Bank Ltd.
18	Standard Chartered Bank (Pakistan) Ltd.	18	Standard Chartered Bank (Pakistan) Ltd.
19	Summit Bank Ltd	19	Summit Bank Ltd
20	United Bank Ltd.	20	United Bank Ltd.
	C. Foreign Banks (4)		**C. Foreign Banks (4)**
1	Citibank N.A.	1	Citibank N.A.
2	Deutsche Bank AG	2	Deutsche Bank AG
3	Industrial and Commercial Bank of China Ltd.	3	Industrial and Commercial Bank of China Ltd.
4	Bank of China Limited	4	Bank of China Limited
	D. Specialized Banks (3)		**D. Specialized Banks (3)**
1	Punjab Provincial Co-operative Bank Ltd.	1	Punjab Provincial Co-operative Bank Ltd.
2	SME Bank Ltd.	2	SME Bank Ltd.
3	Zarai Taraqiati Bank Ltd.	3	Zarai Taraqiati Bank Ltd.
	All Commercial Banks (29)		**All Commercial Banks (29)**
	Include A + B + C		Include A + B + C
	All Banks (32)		**All Banks (32)**
	Include A + B + C + D		Include A + B + C + D

Annexure VI - Composition of Islamic Banking Institutions

	Dec-21		Dec-22
	Islamic Banks		**Islamic Banks**
1	AlBaraka Bank (Pakistan) Ltd.	1	AlBaraka Bank (Pakistan) Ltd.
2	BankIslami Pakistan Ltd.	2	BankIslami Pakistan Ltd.
3	Dubai Islamic Bank Pakistan Ltd	3	Dubai Islamic Bank Pakistan Ltd
4	MCB Islamic Bank Ltd.	4	MCB Islamic Bank Ltd.
5	Meezan Bank Ltd	5	Meezan Bank Ltd
	Conventional Banks having Islamic Banking Branches		**Conventional Banks having Islamic Banking Branches**
1	Askari Bank Ltd.	1	Askari Bank Ltd.
2	Allied Bank Ltd.	2	Allied Bank Ltd.
3	Bank Al Habib Ltd	3	Bank Al Habib Ltd
4	Bank Alfalah Ltd	4	Bank Alfalah Ltd
5	Faysal Bank Ltd.	5	Faysal Bank Ltd.
6	Habib Bank Ltd	6	Habib Bank Ltd
7	Habib Metropolitan Bank	7	Habib Metropolitan Bank
8	National Bank of Pakistan	8	National Bank of Pakistan
9	Silk Bank Ltd	9	Silk Bank Ltd
10	Sindh Bank Ltd	10	Sindh Bank Ltd
11	Soneri Bank Ltd	11	Soneri Bank Ltd
12	Standard Chartered Bank	12	Standard Chartered Bank
13	Summit Bank Ltd.	13	Summit Bank Ltd.
14	The Bank of Khyber	14	The Bank of Khyber
15	The Bank of Punjab	15	The Bank of Punjab
16	United Bank Ltd.	16	United Bank Ltd.
17	Zarai Taraqiati Bank Ltd.	17	Zarai Taraqiati Bank Ltd.
	Grand Total 22 (5+17)		**Grand Total 22 (5+17)**

Annexure VII - List of Development Finance Institutions (DFIs)

Dec-21	Dec-22
1 House Building Finance Company Ltd.	1 House Building Finance Company Ltd.
2 PAIR Investment Company Ltd.	2 PAIR Investment Company Ltd.
3 Pak Brunei investment Company Ltd.	3 Pak Brunei investment Company Ltd.
4 Pak Libya Holding Company Ltd.	4 Pak Libya Holding Company Ltd.
5 Pak Oman Investment Company Ltd.	5 Pak Oman Investment Company Ltd.
6 Pak-China Investment Company Ltd.	6 Pak-China Investment Company Ltd.
7 Pakistan Kuwait Investment Company (Private) Ltd.	7 Pakistan Kuwait Investment Company (Private) Ltd.
8 Pakistan Mortgage Refinance Company Ltd.	8 Pakistan Mortgage Refinance Company Ltd.
9 Saudi Pak Industrial & Agricultural Investment Company Ltd.	9 Saudi Pak Industrial & Agricultural Investment Company Ltd.

Annexure VIII - List of Microfinance Banks (MFBs)

Dec-21		Dec-22	
1	Advans Pakistan Microfinance Bank Limited	1	Advans Pakistan Microfinance Bank Limited
2	APNA Microfinance Bank Limited	2	APNA Microfinance Bank Limited
3	FINCA Microfinance Bank Limited	3	FINCA Microfinance Bank Limited
4	Khushhali Microfinance Bank Limited	4	Khushhali Microfinance Bank Limited
5	Mobilink Microfinance Bank Limited	5	Mobilink Microfinance Bank Limited
6	NRSP Microfinance Bank Limited	6	NRSP Microfinance Bank Limited
7	Pak Oman Microfinance Bank Limited	7	Pak Oman Microfinance Bank Limited
8	Sindh Microfinance Bank Limited	8	Sindh Microfinance Bank Limited
9	Telenor Microfinance Bank Limited	9	Telenor Microfinance Bank Limited
10	The First Micro Finance Bank Limited	10	HBL Microfinance Bank Limited (formerly The First Micro Finance Bank Ltd.)
11	U Microfinance Bank Limited	11	U Microfinance Bank Limited

Annexure IX - List of Non-Bank Financial Institutions

Asset Management Companies (AMCs)/ Investment Advisors (IAs)

1 786 Investments Limited
2 Aaraf Investment Advisory Limited
3 ABL Asset Management Company Limited
4 AKD Investment Management Limited
5 Alfalah GHP Investment Management Limited
6 Alliance Investment Management Limited
7 Al-Meezan Investment Management Limited
8 Atlas Asset Management Limited
9 AWT Investment Limited
10 BMA Investment Advisors Limited
11 Faysal Asset Management Limited
12 First Capital Investments Limited
13 Habib Asset Management Limited
14 HBL Asset Management Limited
15 Interloop Asset Management Limited
16 JS Investments Limited
17 Kifayah Investment Management Limited
18 Lakson Investments Limited
19 Magnus Investment Advisors Limited
20 Mahaana Wealth Limited
21 MCB-Arif Habib Savings and Investments Limited
22 National Investment Trust Limited
23 NBP Asset Management Limited
24 Pak Oman Asset Management Company Limited
25 Pak Qatar Asset Management Co. Limited
26 Sarmuz Investments Limited
27 UBL Fund Managers Limited
28 Vision Capital Limited

Non-Bank Microfinance Companies (NBMFCs)

1 Agahe Pakistan
2 Akhuwat Islamic Microfinance
3 AL-Muwakhat Microfinance Company Limited
4 AMRDO Foundation
5 Balochistan Rural Support Programme
6 Bluesky Financial Services Limited
7 Cashew Financial Services Limited
8 Creditfix Financial Services Limited
9 CSC Empowerment & Inclusion Programme
10 Damen Support Programme
11 Farmers Development Organization
12 Farmers Friend Organization
13 Ghazi Barotha Taraqiati Idara
14 Gold Lion Financials (Private) Ltd.
15 Humraah Financial Services Ltd
16 JWS Pakistan
17 Kashf Foundation
18 MG Financial Services (Pvt) Limited
19 Mojaz Support Program
20 National Rural Support Programme (NRSP)
21 OPD Support Program
22 Organization for Poverty Reduction and Community Training Program
23 Punjab Rural Support Programme
24 Rural Community Development Programme (RCDP)
25 Saath Microfinance Foundation Pakistan
26 Safco Microfinance Company (Pvt) Limited
27 SAFCO Support Foundation
28 Sarhad Rural Support Programme (SRSP)
29 Sarmaya Microfinance (Pvt) Ltd.
30 Sayya Microfinance Company
31 Shah Sachal Sami Foundation (SSSF)
32 Sindh Rural Support Organization
33 Soon Valley Development Program
34 TEZ Financial Services Limited
35 Thardeep Microfinance Foundation
36 Titlistec Finance Ltd.
37 Union Microfinance Company Ltd
38 BRAC Pakistan*

Housing Finance Companies

1 Akhuwat Housing Finance Co Ltd
2 Assan Ghar Finance Limited
3 Pakistan Housing Finance Co. Ltd
4 Trellis Housing Finance Limited

Private Equity & Venture Capital Firms (PE&VC)

1 Fatima Gobi Ventures (Pvt) Limited
2 Ijarah Capital Partners Limited
3 PNO Capital Limited
4 TMT Ventures Limited

REIT Management Companies (RMCs)

1 AKD REIT Management Company Limited
2 Arif Habib Dolmen REIT Management Limited
3 ISE Towers REIT Management Limited
4 SB Global REIT Management Limited
5 TPL REIT Management Company Limited
6 Veritas REIT Management Company Ltd
7 Bodla REIT Management Company Limited
8 Fast REIT Management Company Limited
9 IMM REIT Management Company Limited
10 Providential REIT Management Company Limited
11 Sinolink REIT Management Company Limited

Investment Finance Companies (IFCs)

1 Escorts Investment Bank Limited
2 Finja Lending Services Limited
3 First Credit & Investment Bank Limited
4 First Dawood Investment Bank Limited
5 Infra Zamin Pakistan Limited
6 Invest Capital Investment Bank Limited
7 LSE Financial Services Limited
8 OLP Financial Services Pakistan Limited
9 Pakistan Development Fund Ltd
10 Pakistan Microfinance Investment Co. Ltd
11 Parwaaz Financial Services Limited
12 Qisstpay BPNL (Private) Limited
13 Security Investment Bank Limited
14 Seedcred Financial Services Limited
15 Taleem Finance Company Limited
16 Visioncred Financial Services (Pvt) Limited
17 WASL Investment Finance Limited
18 Abhi (Private) Limited
19 Asaan Qarz Financial Services (Pvt.) Ltd.
20 JingleCred Digital Finance Limited
21 Legend Financial Services (Pvt) Limited
22 Microcred Financial Services Limited
23 Neem Exponential Financial Services (Pvt.) Ltd.
24 PostEx Financial Services (Pvt) Limited
25 QistBazaar (Private) Limited
26 Trukkr Financial Services Limited
27 Trust Investment Bank*

Modarabas

1 Allied Rental Modaraba
2 Awwal Modaraba
3 B.F. Modaraba
4 B.R.R. Guardian Modaraba
5 First Al-Noor Modaraba
6 First Elite Capital Modaraba
7 First Equity Modaraba
8 First Fidelity Leasing Modaraba
9 First Habib Modaraba
10 First IBL Modaraba
11 First Imrooz Modaraba
12 First National Bank Modaraba
13 First Pak Modaraba
14 First Paramount Modaraba
15 First Prudential Modaraba
16 First Punjab Modaraba
17 First Treet Manufacturing Modaraba
18 First Tri Star Modaraba
19 First UDL Modaraba
20 Habib Metro Modaraba
21 KASB Modaraba
22 Modaraba Al-Mali
23 Orient Rental Modaraba
24 Orix Modaraba
25 Popular Islamic Modaraba
26 Sindh Modaraba
27 Trust Modaraba
28 Unicap Modaraba

Leasing Companies

1 Cordoba Leasing Limited
2 Grays Leasing Limited
3 Pak Gulf Leasing Company Limited
4 Primus Leasing Limited
5 Saudi Pak Leasing Company Limited
6 Security Leasing Corporation Limited.
7 SME Leasing Limited

Discounting

Smart Finance Limited

* Companies under winding up

Annexure X - List of Insurance Companies

Non-Life Insurance Companies

1 Adamjee Insurance Company Limited
2 Alfalah Insurance Company Limited
3 Allianz EFU Health Insurance Limited
4 Alpha Insurance Company Limited
5 Asia Insurance Company Limited
6 Askari General Insurance Company Limited
7 Atlas Insurance Limited
8 Century Insurance Company Limited
9 Chubb Insurance Pakistan Limited
10 Continental Insurance Co. Ltd
11 Crescent Star Insurance Co. Limited
12 East West Insurance Company Limited
13 EFU General Insurance Limited
14 Habib Insurance Company Limited
15 IGI General Insurance Limited
16 Jubilee General Insurance Company Limited
17 National Insurance Company Limited
18 New Hampshire Insurance Company Limited
19 PICIC Insurance Limited
20 Premier Insurance Limited
21 Progressive Insurance Company Limited*
22 Reliance Insurance Company Limited
23 Security General Insurance Company Limited
24 Shaheen Insurance Company Limited
25 Silver Star Insurance Company Limited
26 Sindh Insurance Limited
27 SPI Insurance Company Limited
28 The Asian Mutual Insurance Company (Guarantee) Limited*
29 The Cooperative Insurance Society of Pakistan
30 The Pakistan General Insurance Company Limited
31 The Pakistan Mutual Insurance Company (Gte)
32 The United Insurance Company of Pakistan Limited
33 The Universal Insurance Company Limited
34 TPL Insurance Limited
35 TRAFCO Insurance Company Limited
36 UBL Insurers Limited

General Takaful Companies

1 Pak-Kuwait Takaful Company Limited
2 Pak-Qatar General Takaful Limited
3 Salaam Takaful Limited (Formerly Takaful Pakistan Limited)

Life Insurance Companies

1 Adamjee Life Assurance Company Limited
2 Askari Life Assurance Company Ltd. (Previously East West Life Assurance Company Limited)
3 EFU Life Assurance Company Limited
4 IGI Life Insurance Limited
5 Jubilee Life Insurance Company Ltd.
6 State Life Insurance Corporation of Pakistan
7 TPL Life Insurance Limited (Previously Asia Care Health & Life Insurance Company Ltd.)
8 Postal Life Insurance Company Limited

Family Takaful Companies

1 5th Pillar Family Takaful Limited
2 Dawood Family Takaful Limited
3 Pak Qatar Family Takaful Limited

Reinsurance Companies

1 Pakistan Reinsurance Company Limited

*Proceedings have been initiated against the Company for winding up under Section 143 of the Insurance Ordinance

Acronyms

$/b	Dollars per barrel
AAOIFI	Accounting and Auditing Organization for Islamic Financial Institutions
AC& FID	Agriculture Credit and Financial Inclusion Department
ACH	Automated Clearing House
AD	Authorized Dealer
ADB	Asian Development Bank
ADC	Alternate Delivery Channel
ADR	Advances to Deposit Ratio
ADs	Authorized Dealers
AEs	Advanced Economies
AFI	Alliance for Financial Inclusion
AFS	Available for Sale
ALM	Asset-Liability Management
AM	Asset Management
AMA	Asaan Mobile Account
AMA	Asaan Mobile Account
AMCs	Asset Management Companies
AML	Anti-Money Laundering
APG	Asia Pacific Group
APIs	Application Programming Interfaces
ATMs	Automated Teller Machines
ATS	Automated Transfer System
AUM	Assets Under Management
B2C	Business-to-Consumer
BB	Branchless Banking
BCBS	Basel Committee of Banking Supervision
BCI	Business Confidence Index
BCP	Business Continuity Plan
BIS	Bank for International Settlements
BMR	Balancing, Modernization and Replacement
BoE	Bank of England
BPRD	Banking Policy and Regulations Department
bps	Basis Points
BRAM	Bank Risk Analysis and Monitoring
BSC	Banking Services Corporation
BSD	Banking Surveillance Department
BSSM	Banking System Stability Map
CAD	Current Account Deficit
CAGR	Compound Annual Growth Rate
CAR	Capital Adequacy Ratio
CAs	Crypto Assets
CBDCs	Central Bank Digital Currencies
CBU	Completely Built Units
CCB	Capital Conservation Buffer
CDC	Central Depository Company
CDMs	Cash Deposit Machines
CDNS	Central Directorate of National Savings
CDO	Customers' Digital Onboarding
CEO	Chief Executive Officer
CET1	Common Equity Tier 1
CFT	Combating the Financing of Terrorism
CGRF	Corporate Governance Regulatory Framework
CiC	Currency in Circulation
CIS	Collective Investment Scheme
CISO	Chief Information Security Officer
CKD	Completely Knocked Down
COD	Certificate of Deposit
COI	Certificate of Investment
COM	Certificate of Musharakah
COVID	Corona Virus Disease
CPF	Countering Proliferation Financing
CPI	Consumer Price Index
CR	Current Ratio
CRAM	Credit Risk Analysis and Monitoring
CRCs	Corporate Restructuring Companies
CRI	Climate Risk Index
CRR	Cash Reserve Ratio
CRWA	Credit Risk Weighted Assets
CSD	Core Statistics Department
CSPs	Cloud Service Providers
CY	Calendar Year
D/E	Debt-To Equity
DFI	Development Financial Institutions

DFID	Department for International Development
DFS	Digital Financial Services
DLT	Distributed Ledger Technology
DMMD	Domestic Markets and Monetary Management
DPC	Deposit Protection Corporation
DRP	Deferred and Restructured Portfolio
DRRL	Deferment and RRL
DRS	Debt Relief Scheme
D-SIBs	Domestic Systemically Important Banks
DSSI	Debt Service Suspension Initiative
DTO	Dedicated Takaful Operator
E&P	Exploration & Production
E&S	Environmental and Social
EAs	Executing Agencies
EBIT	Earnings before Interest and Taxes
EC	Eligible Capital
ECB	European Central Bank
e-CIB	Electronic-Credit Information Bureau
ECL	Expected Credit Loss
ECs	Exchange Companies
EFF	Extended Fund Facility
EFS	Export Finance Scheme
EIA	Energy Information Administration
EIU	Economist Intelligence Unit
EMDEs	Emerging Markets and Developing Economies
EMI	Electronic Money Institution
EMs	Emerging Markets
EoP	End of Period
EPD	Exchange Policy Department
EPRD	Economic Policy Review Department
ESMS	Environmental & Social Management System
ESRM	Environmental and Social Risk Management
ETFs	Exchange Traded Funds
ETGRMF	Enterprise Technology Governance & Risk Management Framework
EU	European Union
EV	Electric Vehicle
EWMA	Exponential Weighted Moving Average
FATF	Financial Action Task Force
FCA	Federal Committee on Agriculture
FCY	Foreign Currency
FE	Foreign Exchange
FED	Federal Excise Duty
Fed	Federal Reserve
FEEL	Foreign Exchange Exposure Limit
FI	Financial Institutions
FIFA	Federation Internationale de Football Association
FIs	Financial Institutions
FMI	Financial Market Infrastructure
FMRM	Financial Markets and Reserves Management
FPT	Fit & Proper Test
FRR	Fixed Rental Rate
FSB	Financial Stability Board
FSC	Federal Shariat Court
FSHM	Financial Sector Heat Map
FSIs	Financial Soundness Indicators
FSR	Financial Stability Review
FSVI	Financial Sector Vulnerability Index
FTC	Federal Trade Commission
FTX	Futures Exchange Trading
FX	Foreign Exchange
FY	Fiscal Year
GBGs	Green Banking Guidelines
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GFSR	Global Financial Stability Report
GHC	Global Health Crisis
GHG	Greenhouse Gas
GIFA	Global Islamic Finance Awards
GIS	Government Ijarah Sukuk
GM	Gross Margin
GNPLR	Gross Non-Performing Loan Ratio
GoP	Government of Pakistan
HF	Housing Finance
HFC	Housing Finance Company
HFT	Held For Trading
HLA	Higher Loss Absorbency
IA	Investment Advisor

IAs	Investment Advisors
IASB	International Accounting Standards Board
IB	Islamic Bank
IBB	Islamic Banking Branch
IBD	Islamic Banking Department
IBDs	International Broker Dealers
IBFT	Inter Bank Funds Transfer
IBI	Islamic Banking Institution
IBWs	Islamic Banking Windows
ICAP	Institute of Chartered Accountants of Pakistan
ICR	Interest Coverage Ratio
ICT	Information and Communication Technologies
IERS	Islamic Export Refinance Scheme
IFCs	Investment Finance Companies
IFFSAP	Islamic Financing Facility for Storage of Agricultural Produce
IFN	Islamic Finance News
IFPD	Islamic Finance Policy Department
IFRS	International Financial Reporting Standard
IFSB	Islamic Financial Services Board
ILTFF	Islamic Long Term Financing Facility
IMF	International Monetary Fund
IPO	Initial Public Offering
IPP	Independent Power Producer
IRC	Interest Rate Corridor
IRFMS	Islamic Refinance Facility for Modernization of SMEs
IT	Information Technology
ITAC	International Trade Administration Commission of South Africa
ITERF	Islamic Temporary Economic Refinance Facility
JG	Joint Group
KFS	Key Fact Statement
KIBOR	Karachi Interbank Offered Rate
KLCI	Kuala Lumpur Composite Index
KMI	KSE-Meezan Index
KOSPI	Korea Composite Stock Price Index
KPI	Key Performance Indicators
KSA	Kingdom of Saudi Arabia
KSE	Karachi Stock Exchange
LBDs	Local Broker Dealers
LC	Letter of Credit
LCR	Liquidity Coverage Ratio
LIBOR	London Interbank Offered Rate
LIPI	Local Investors Portfolio Investment
LoC	Line of Credit
LOLR	Lender of Last Resort
LSM	Large Scale Manufacturing
LTCE	Long Term Country Engagement
LTFF	Long Term Financing Facility
LVPS	Large Value Payment System
MFB	Micro Finance Bank
MFPs	Microfinance Providers
MoM	Month on Month
MoU	Memorandum of Understanding
MPD	Monetary Policy Department
MPMG	Mera Pakistan Mera Ghar
MPPF	Macro prudential Policy Framework
MRWA	Market Risk Weighted Assets
MSCI	Morgan Stanley Capital International
MST	Macro-Stress Testing
MTB	Market Treasury Bill
MTS	Margin Trading System
MUFAP	Mutual Funds Association of Pakistan
NAPHDA	Naya Pakistan Housing & Development Authority
NARC	National Agriculture Research Centre
NAV	Net Asset Value
NBFCs	Non-Banking Finance Companies
NBFI	Non-Bank Financial Institution

NBMFCs	Non-Bank Finance Companies
NCCPL	National Clearing Company of Pakistan Limited
NDCs	Nationally Determined Contributions
NFCI	National Financial Conditions Index
NFIS	National Financial Inclusion Strategy
NFSC	National Financial Stability Council
NFSR	Net Stable Funding Ratio
NFSR	Net Stable Funding Ratio
NGFS	Network of Central Banks and Supervisors for Greening the Financial System
NIFT	National Institutional Facilitation Technologies
NiGEM	National Institute Global Econometric Model
NII	Net Interest Income
NIM	Net Interest Margins
NMM	Net Mark-up Margin
NNPLR	Net Non-Performing Loans ratio
NOC	No Objection Certificates
Non-II	Non-Interest Income
NOP	Net Open Position
NPC	Naya Pakistan Certificate
NPF	Non-Performing Financing
NPL	Non-Performing Loan
NPLR	Non-Performing Loans ratio
NPSS	National Payment System Strategy
NRA-22	National ML/ TF Risk Assessment of Pakistan – 2022
NRP	Non-Resident Pakistanis
NRPs	Non-Resident Pakistanis
NSS	National Savings Schemes
OAEM	Other Assets Especially Mentioned
OMCs	Oil Marketing Companies
OMOs	Open Market Operations
ONR	Overnight Repo Rate
OPEC	Oil Producing and Exporting Countries
ORR	Obligor Risk Rating
ORWA	Operational Risk Weighted Assets
OSS	Operational Self Sufficiency
P/B	Price to Book Ratio
P/E	Price to Earnings Ratio
P/E	Price Earnings
P2P	Peer-to-Peer
P2P	Person-to-Person
PAT	Profit after Tax
PBS	Pakistan Bureau of Statistics
PCI-DSS	Payment Card Industry-Data Security Standard
PCR	Provisioning Coverage Ratio
PCRCL	Pakistan Corporate Restructuring Company Limited
PD	Probability of Default
PE	Private Equity
PES	Pakistan Energy Sukuk
PIA	Pakistan International Airlines
PIB	Pakistan Investment Bond
PKR	Pakistani Rupee
PKRV	Pak Rupee Revaluation
PMEX	Pakistan Mercantile Exchange Limited
PMI	Purchasing Managers Index
PMIC	Pakistan Microfinance Investment Company
PMRC	Pakistan Mortgage Refinance Company
POS	Point of Sale
PRC	Publication Review Committee
PRCs	Proceeds Realization Certificates
PRISM	Pakistan Real-Time Interbank Settlement Mechanism
PRs	Prudential Regulations
PSA	Private Sector Advances
PSC	Private Sector Credit
PSDP	Public Sector Development Program
PSEFT	Payment Systems and Electronic Funds Transfer Act
PSEs	Public Sector Enterprises
PSO	Payment System Operator
PSP	Payment System Provider
PSP& OD	Payment Systems Policy & Oversight Department
PSX	Pakistan Stock Exchange

PTA	Pakistan Telecommunication Authority
PTF	Participants' Takaful Fund
PWD	Persons with Disabilities
QR	Quick Response
RAS	Regulatory Approval System
RBS	Risk Based Supervision
RC	Regulatory Capital
RCG	Regional Consultative Group
RCOA	Return on Chart of Accounts
RD	Research Department
RDA	Roshan Digital Account
REI	Roshan Equity Investment
REIT	Real Estate Investment Trusts
RFCC	Refinance Facility for Combating COVID -19
RFI	Rapid Finance Instrument
RHS	Right Hand Side
RMCs	Real Estate Investment Trust (REIT) Management Companies
ROA	Return on Assets
ROE	Return on Equity
RRL	Restructure and Reschedule Loan
RSA	Rate Sensitive Assets
RSBM	Resident Shariah Board Member
RSL	Rate Sensitive Liabilities
RST	Reverse Stress Testing
RTOB	Real-Time Online Branches
RVPS	Retail Value Payment System
RWAs	Risk Weighted Assets
S & P	Standard and Poor's
SBP	State Bank of Pakistan
SC	Steering Committee
SCRS	Specialized Companies Return System
SECP	Securities & Exchange Commission of Pakistan
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SHF	Shareholders' Fund
SIF	Social Impact Fund
SLR	Statutory Liquidity Requirement
SME	Small and Medium Enterprise
SME,H&SFD	SME, Housing & Sustainable Finance Department
SMEs	Small and Medium Enterprises
SNCR	Shariah Non-Compliance Risk
SOPs	Standard Operating Procedures
SRS	Systemic Risk Survey
ST	Stress Testing
STZ	Special Technology Zones
SVaR	Stressed Value at Risk
TB	Treasury Bill
TDR	Term Deposit Receipt
TEC	Total Eligible Capital
TERF	Temporary Economic Refinance Facility
TFC	Term Finance Certificate
TRWA	Total Risk Weighted Assets
TSA	Treasury Single Account
TT	Telegraphic Transfer
UAE	United Arab Emirates
UK	United Kingdom
UNDP	United Nations Development Programme
US	United States of America
USA	United States of America
USD	Unites States Dollar
VaR	Value at Risk
VAR	Vector Auto-Regressive
VC	Venture Capital
VCs	Virtual Currencies
VIX	Chicago Board Options Exchange Volatility Index
VRR	Variable Rental Rate
WACOG	Weighted Average Cost of Gas
WADR	Weighted Average Deposit Rate
WALE	Weighted Average Lease Expiry
WALR	Weighted Average Lending Rate
WeBOC	Wed-Based One Customs
WEF	World Economic Forum
WEO	World Economic Outlook
WFH	Work-from-Home
WHO	World Health Organization
WTI	West Texas Intermediate
WTO	Window Takaful Operator
YoY	Year on Year
YTD	Year to date