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Saudi Arabian Monetary Authority

Financial Stability Report 2017

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Executive Summary

Increasing policy uncertainty dragged on global trade for the year, which hampered global growth momentum. In 2016**,** the global economy grew by 3.1 percent, versus 3.4 percent growth in the previous year. The slowdown was due to the slower growth in the world's advanced economies, which decreased from 2.1 percent in 2015 to 1.7 percent in 2016. Emerging markets and developing economies' combined GDP growth slightly declined to 4.1 percent in 2016 from 4.3 in the previous year. The weakness in global trade and the investment, and the growing policy uncertainty were the primary factors behind slowing global growth.

Deflationary risks have abated as the global inflation rate slightly increased in 2016. In most developed economies, the inflation rate picked up while in many emerging markets and developing countries, it moderately decreased. Headline inflation in developed markets reached 0.8 percent in 2016 compared to 0.3 percent in 2015, while core inflation remained below the targeted inflation by most countries' central banks. However, deflation risk should remain monitored by policymakers.

The global downside risk factors remained largely unchanged in 2016 compared to the previous year. The growth performance during 2016 witnessed a slowdown despite the monetary accommodation in many advanced economies. Low commodity prices continued to weigh on emerging and developing economies' exports and energy sectors in Advanced Economies. Moreover, the slowdown in the Chinese growth continued to hamper global confidence. These combined factors have contributed to some risk of financial instability in 2016. Furthermore, dealing with potential divergence in monetary policies among advanced economies remains a challenge.

The outlook for global economic growth is positive. Global growth is expected to reach 3.5 percent in 2017 compared to 3.1 percent in 2016. Both emerging market and developing economies are expected to drive global growth performance while growth in advanced economies is expected to be subdued.

In Saudi Arabia, macroeconomic indicators continued to slowdown in 2016 as a result of the low oil prices. Real GDP grew by 1.7 percent in 2016 compared to 4.1 percent in 2015. Macroeconomic developments led the government to take serious steps to reduce the economy's dependence on oil and promote economic diversification. Consequently, the government has launched Vision 2030 and National Transformation Program (NTP) 2020.

Notwithstanding the importance and need for fiscal consolidation measures and structural reforms, implementation should ensure containing the risk arising from macro-financial linkages. These measures are critical to safeguard against the volatility of the oil market. Nevertheless, phasing them in, gradually, will minimize the impact of unintended consequences on economic growth, unemployment, and inflation rates.

Furthermore, the reforms should remain accommodative to new investments and the level of aggregate demand to avoid disturbing economic growth and minimize deflationary pressures. Structural reforms and fiscal consolidation should aim to increase efficiency of government spending on one hand, and resource allocation on the other. This implies that economic policies should remain accommodative to economic growth and investments in a way that stimulate economic activities and increase aggregate demand. This will also help stabilize inflation trends and abate any potential deflationary pressures.

The domestic banking system remains resilient, despite the squeeze in system liquidity in the first half of the year and the slowing economic growth. System liquidity was tested during the year, which resulted in a rise in market rates reflecting the increasing cost of funding. It was due to both SAMA's prompt response and the resumption of payments from the Ministry of Finance to domestic companies, that the liquidity pressure was temporary, and eased by the end of the year, which resulted in market rates trending downwards toward the end of 2016.

Although the Banking growth potential is correlated with the sluggish economic growth, the soundness of the sector remains intact. Bank assets grew by only 2.1 percent during 2016, a marked decrease from the previous year's growth of 4 percent. Despite the slowing growth, asset quality remains high with NPL rates only at 1.4 percent for the year. The banking system is well positioned to handle any further deterioration in assets, given their strong solvency positions as measured by the Capital Adequacy Ratio, which stood at 19.5 percent at the end of the year. Stress tests for the year incorporated different market rate scenarios in addition to shocking relevant domestic economic indicators. The results of the stress tests demonstrated the robustness of the banking system, where the domestic banking system was shown to be solvent in all the scenarios. As the economic climate continues to moderate, banks have been shifting to lower risk assets, which serves to contain any undue risk in their exposures. The soundness of the banking system grows ever more important as the country embarks on a long-term economic diversification strategy as envisioned by Vision 2030, and SAMA will continue to build on its overarching regulatory framework to ensure the stability and success of the vision.

As a result of economic slowdown, the non-banking finance sector witnessed lower credit growth and decreasing profitability. Despite the highest increase in the assets of Specialized Credit Institutions (SCIs), the sector recorded lower credit growth by 0.2 percent in 2016 compared to 11 percent in the previous year. At the finance companies level, their overall performance was positive as their assets and total credit have increased by 11 and 10 percent, respectively. However, profitability continues to slow down for the third year in a row.

The performance of the insurance sector has slightly improved in 2016 despite the persistence of structural differences within the sector. While profitability has increased in 2016, the Gross Written Premium (GWP) recorded the lowest growth rate, which came at 0.2 percent for the year. Both solvency and efficiency increased as reflected by the solvency margins and loss ratios. However, sector-wise performance among insurance companies has widely diverged where the performance of the top three companies has outweighed the rest of companies in the sector. Moreover, the sector remains concentrated in two of the business lines: health and motor insurance.

The Saudi capital market fared well despite the current challenges in the Saudi economy. The Saudi stock exchange increased 4.3 percent while its turnover declined by 31 percent in 2016. Stock market capitalization increased slightly to SAR 1.7 trillion compared to SAR 1.6 trillion in the previous year. At the Authorized Persons (APs) industry level, APs' net income continued to decline for the second consecutive year. However, the sector has a strong capital adequacy level and liquidity remained at a comfortable level as the liquid-assets to total assets ratio reached 61 percent.

As the threats of cyber security keep growing, SAMA has implemented several measures to ensure the security of its payment systems. In order to have a comprehensive Payment Systems Framework, SAMA conducted a multi-level self-assessment of the Financial Market Infrastructures. Further to the rigorous oversight efforts, SAMA has been making concerted efforts to increase cashless transactions in the domestic economy, primarily by the Integrated Payment Strategy which would increase electronic transaction to 30 percent by 2021. Other several cyber security initiatives were implemented including the setup of the "Cyber Security Framework" and establishment of the Banking Committee for Information Security.

1. The Global Economy: Trends, Risks and Growth Outlook

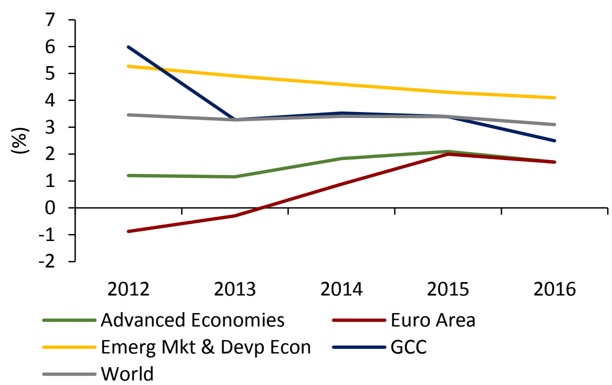
1.1 Recent Trends

Global growth momentum was disrupted amid worries of increased policy uncertainty. Global economic output grew by 3.1 percent in 2016, a decline from the 3.4 percent growth in the previous year. The main reason for this slowdown was a decline in the growth of the world's advanced economies, whose expansion slowed markedly, from 2.1 percent in 2015 down to 1.7 percent in 2016. The slowdown also struck the emerging markets and developing economies, but to a lesser degree, with growth slowing to an estimated 4.1 percent rate. This represented a slight decline from the 4.3 percent expansion in 2015. This slowdown in the world economy can be attributed to three primary factors that weighted negatively on the overall global growth performance; weakness in global trade and investment and an increase in policy uncertainty.[1]

The growth in the world's advanced economies varied widely in 2016, but the majority of countries showed a slower growth trend. US economic growth showed the largest decline, slowing to 1.6 percent from 2.6 percent in 2015. Growth in the Euro Area and Japan also slowed, but not as steep as the US slowdown, dropping only by 0.3 and 0.2 percentage points, respectively. The only G7 countries showing faster growth in 2016 were Germany and Canada.

Growth patterns in the emerging/developing world also showed a wide variance. Russia's economic contraction improved considerably from -2.8 to -0.2 in 2016. In contrast, Brazil's economic contraction continued as their GDP dropped by 3.6 percent, the second year of large negative growth. The Emerging and Developing Asian region continued to be the fastest growing region in the world, but growth did slow moderately from 6.7 in 2015 down to 6.4 percent. As a result of these divergent growth patterns, the growth rates of the various world groupings have continued to converge, in the 1.5 to 4.5 percent range, as can be seen in (**Chart 1.1**).

Chart 1.1: World and Regional Real GDP Growth Trends



Source: IMF World Economic Outlook - April 2017

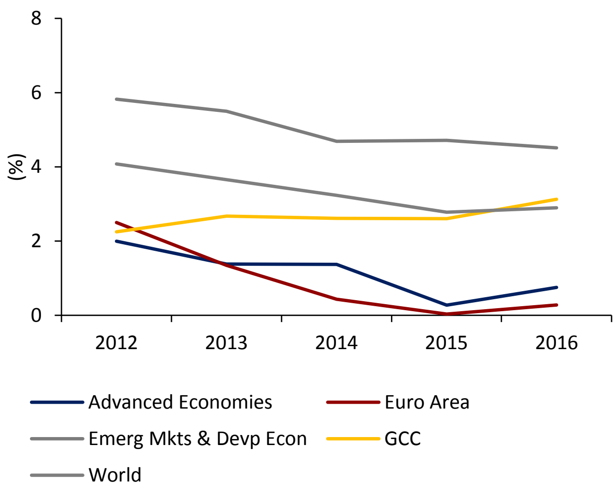
In general, global trade growth rates witnessed a slowdown in 2016, as the global trade volume expanded by only 2.2 percent compared to 2.8 percent in the previous year. In particular, imports grew substantially for emerging markets and developing economies, reaching 2 percent compared to -0.5 percent in the previous year. On the other hand, imports of advanced economies slowed down to 2.3 percent, versus 4.4 percent the year before. More importantly, the slowdown in global trade volumes in 2016 can be attributed to China's rebalancing process and its slowdown spill-over, and the weakness in the overall global demand, especially from economies undergoing economic stress.

Globally, deflation risks have abated. The global inflation rate slightly picked up in 2016, but it remained below one percent for advanced economies, with a slight dip for emerging markets and developing countries. Headline inflation in developed economies rose slightly, reaching 0.8 percent, versus 0.3 percent in 2015. However, the average 2015 inflation rate was uncomfortably low,

[1] These 2016 growth rates are from the IMF April 2017 *World Economic Outlook* and are based in part on partial/preliminary country data that are subject to revision. This is particularly the case for emerging and developing economies' data. Note that the IMF uses a Purchasing Power Parity methodology to weigh individual country weights. This gives more weight to the developing and emerging world. Using regular exchange rate methodology would give an estimated world growth rate of 2.4 percent for 2016, down from a 2.7 percent expansion the year before.

with Japan and several Eurozone countries approaching the deflationary zone. The higher rates in 2016 reflected the committed policies of the central banks of the developed world – specifically, the EU and Japan – to fight deflationary trends, and the US policy tightening, as the US expansion continues. However, core inflation remained below central banks targets in most countries. As a result of the low inflation environment, the central banks of Japan and the Euro area continued to resort to placing negative interest rates on certain categories of commercial bank excess reserves in an attempt to keep real interest rates low in order to stimulate investments **(Chart 1.2)**.

Chart 1.2: World and Regional CPI Inflation Trends



Source: IMF World Economic Outlook - April 2017

In the US, signs of slowing real GDP growth may weigh on the pace of monetary normalization. Real GDP growth in the US was subdued and reached 1.6 percent in 2016 compared to 2.6 in the previous year. Overall activities showed more resiliency, supported by a strength in housing and labor markets, along with a relative easing of financial conditions. However, the gradual increase in the federal funds rate that took place in 2016 and the strength of the US dollar are expected to weigh on manufacturing activities, while the lower oil price environment is expected to impact oil, mining and equipment-related investments. On average, inflation picked up to 1.2 percent compared to 0.1 percent in 2015. Core inflation (excluding food and energy) rose to 2.2 percent.

Euro area growth expanded by 1.7 percent in 2016, which is 0.3 percentage points lower compared to the previous year. The negative effect of the overall weakening in net exports was partially offset by stronger private consumption. Additional support was provided by the positive contribution of both a low oil price environment and easy financial conditions. The quantitative easing (QE) program has also been helpful and is expected to be unchanged in 2017; thus, euro interest rates are expected to remain below US rates for the next year.

For the second consecutive year, Japan showed a relatively strong trend of growth –- expanding by one percent in 2016. The relatively robust performance was backed by fiscal support and low oil prices. Accommodative monetary policy is expected to continue in the short term in order to promote more growth and to circumvent deflationary pressures.

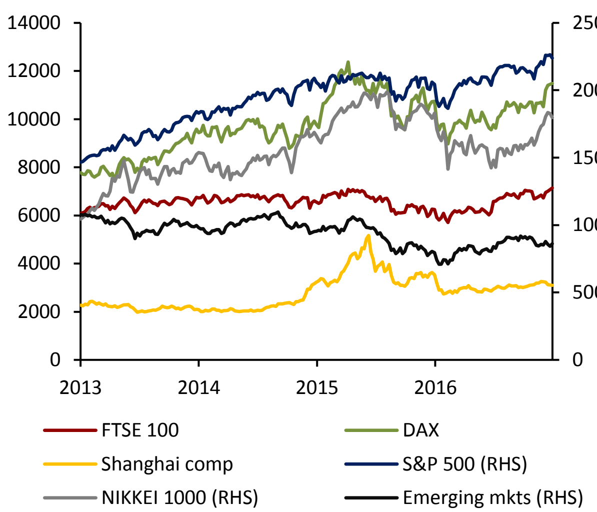
Growth in emerging market Economies (EMEs) was at 4.1 percent, the second straight year of 4+ percent growth. Although China's growth continues to slowdown, a result of the gradual rebalancing toward consumption and away from investment and exports, emerging and developing Asia showed a strong growth of 6.4 percent in 2016. India remained the fastest growing country for the second year in a row, reaching 6.8 percent in 2016. For the Middle East, the recovery in oil prices had little positive impact on growth performance for most oil exporting economies, since it came too late in the year. The average Brent oil price for the year, declined by over 16 percent, and the GCC countries' economies slowed due to the implementation of fiscal consolidation. Overall, a stronger US dollar, higher US interest rates, and weaker global financial markets have all combined to weigh on EME growth, and these challenges are expected to continue into 2017.

1.2 Global Financial Developments and Financial Stability Risks

The global downside risk factors in 2016 are largely unchanged compared to the previous year. Despite the continuation of monetary accommodation followed by most of the advanced economies (except the US), growth performance witnessed a slowdown in 2016, reversing the growth pickup of the previous year. In addition, a slower rebound in depressed commodity prices (excluding energy) continued to weigh on emerging markets and developing economies exports. Furthermore, the Chinese growth slowdown, rebalancing process, and highly leveraged corporate sector continued to have a noticeable effect on global confidence. These combined factors have contributed to a further elevation of the risk of financial instability in 2016. Moreover, although deflation risks abated in 2016, it should remain closely monitored by policy makers. Furthermore, dealing with potential divergence in monetary policies (between the US and other major developed nations) remains a challenge.

On average, equity markets in 2016 resumed an upward trend, with less volatility, following some disruptions during the previous year. Other indices (except the Shanghai composite) witnessed a relatively stronger rebound in the second half of 2016 **(Chart 1.3)**. For example, the FTSE 100 showed a better performance in the second half of 2016, due to the Bank of England interest rate cut to support economic growth. This strong performance went against earlier expectations about a possible equity market slowdown following the Brexit.

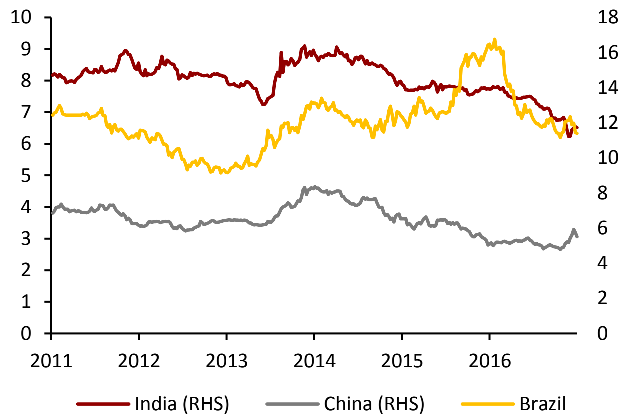
Chart 1.3: Global Equity Markets



Source: Bloomberg

Overall, EMEs sovereign bond yields remained stable. India and Brazil's sovereign yields improved in 2016, decreasing from their end-2015 levels - especially for Brazil, whose yields witnessed a record high in 2015 since 2011 **(Chart 1.4)**. The decrease in these yields was supported by policy measures in some emerging economies. For example, the Reserve Bank of India has cut its key lending rates due to improvement in liquidity conditions and softening of inflationary pressures during 2016. An improvement in inflation expectations and liquidity injections by some governments also resulted in bond yields declining further.

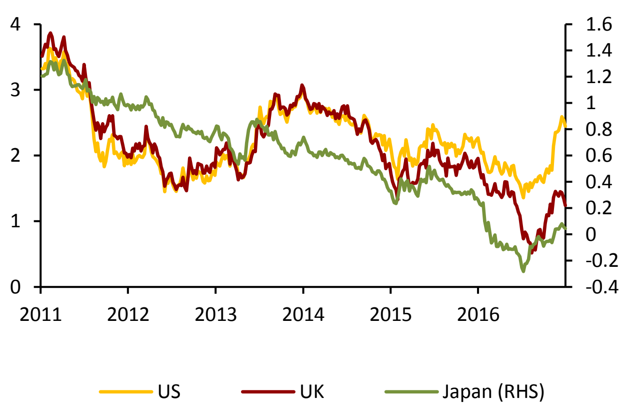
Chart 1.4: 10Y Sovereign Bond Yields in Emerging Markets



Source: Bloomberg

Bond yields in advanced economies witnessed a rebound in the second half of 2016. In the US, the expectation of an interest rate hike by the Fed and the outcome of the US presidential election contributed to the rebound in yields**.** In the EU, the Brexit was a major component fueling the level of uncertainty with regards to the UK growth performance in 2016 and the euro region as a whole **(Chart 1.5).**

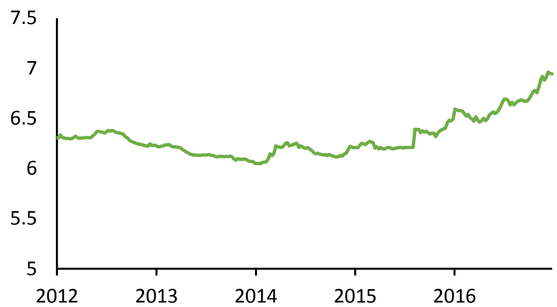
Chart 1.5: 10Y Sovereign Bond Yields in Advanced Economies



Source: Bloomberg

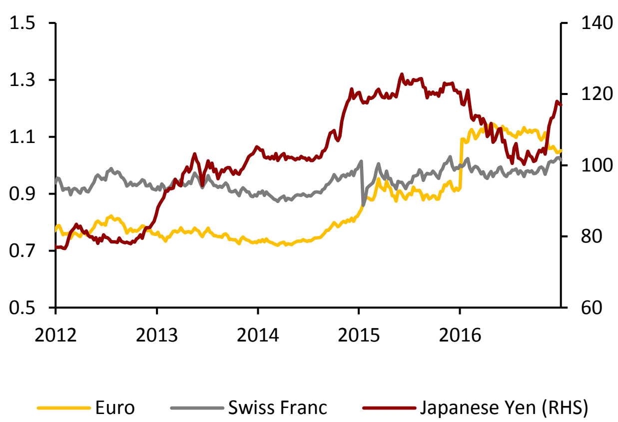
Compared to the last few years, volatility in foreign exchange markets has been lower, while the USD continued to appreciate against most currencies. (Charts 1.6, 1.7). This could be attributed to the divergence in monetary policies of major advanced economies from the US monetary policy normalization and a relatively better output performance from the US. The appreciation of the US dollar may enhance competitiveness of EME exports to US, where the latter is seen to be a major source for global economic growth.

Chart 1.6: US Dollar Exchange Rate against the Chinese Yuan (yuan/ $)



Source: Bloomberg

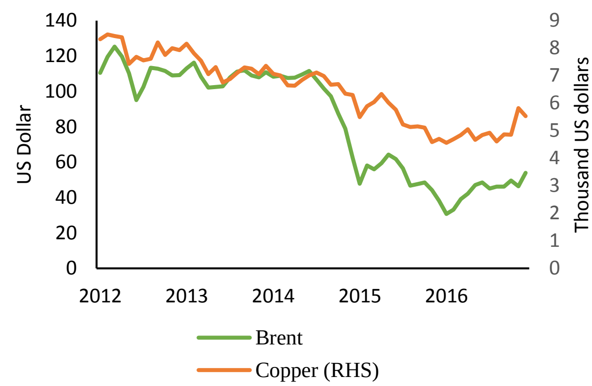
Chart 1.7: US Dollar Exchange Rate against Major Currencies



Source: Bloomberg

A relatively stronger recovery of most commodity prices would further contribute to global financial stability. In the second half of 2016, most commodity prices, especially energy products, recovered from record-low levels registered by the end of 2015. Furthermore, in the fourth quarter of 2016, a stronger recovery in most industrial commodities (excluding agricultural products) was evident. In particular, the Brent crude oil price outperformed its poor performance at the start of the year (around \$30/barrel) and rose above \$50/barrel. This strong recovery was mainly fueled by OPEC's willingness to set the stage for a possible oil production cut agreement and by the gradual shrinking in the global supply and demand gap. In addition, metals, natural gas and coal prices all showed strong recovery, which is primarily attributed to stronger demand, especially from China. The impact is expected to increase financial stability in the global financial system. On one hand, the fiscal stance of oil and commodity exporting countries, which are characterized by strong fiscal-financial ties, would improve. On the other hand, the financial position of highly leveraged oil companies in advanced economies will improve, reducing defaults rates.

Chart 1.8: Commodity Price



Source: Bloomberg

1.3 Global Growth Outlook

Forward guidance, monetary policy accommodation, and moderate fiscal consolidation in advanced economies helped in promoting growth and financial stability in 2016. Fiscal and monetary policies are expected to remain largely unchanged in 2017, although both fiscal and monetary policies for emerging markets and developing economies are expected to diverge on a country-by-country basis. As of December 2016, the US Federal Reserves had implemented another interest rate hike, the second since the 2007 global financial crisis, with a magnitude equal to last year's 25 basis point increase. However, the normalization of monetary policy in the US has been widely anticipated and is expected to continue smoothly in 2017, with no expected sharp swings in the global financial markets.

According to the IMF's latest *World Economic Outlook*, Global growth in 2017 is expected to accelerate. Global growth is expected to reach 3.5 percent in 2017, compared to 3.1 percent in the previous year. The growth performance is expected to be driven mainly by emerging markets and developing economies, especially from emerging and developing Asia, while the outlook for developed economies is expected to be subdued.

Overall, financial stability has increased in 2016, but policy makers should remain vigilant of several potential sources of risk. A move towards deregulation and trade barriers in the United States may induce higher financial risk taking and weigh on global growth. As the partial recovery of commodity prices, especially oil, would improve the balance sheets of highly leveraged corporates in energy-related sectors, these corporates should clean up their balance sheets by increasing their capital relative to total liabilities. In Europe, the banking sector remains weak but may still benefit from macroeconomic improvements and accommodative monetary policy. In emerging economies, a sharper-than-expected economic slowdown along with China's needed transition to a more balanced growth, and highly leveraged corporate sector might pose risk to emerging and global financial markets. Finally, geopolitical tensions, and political uncertainties (e.g., in the European Union and US) may increase uncertainty in the global financial system.

2. The Saudi Economy: Trends, Risks and Growth Outlook

2.1 Growth and Inflation Trends

Despite some recovery, the plunge in oil prices, which started in mid-2014, have had large impact on fiscal and macroeconomic developments in Saudi Arabia. Oil prices continued to rise during the year, and, by December 2016, they were over 50 percent higher compared to the end of 2015. However, on a year-over-year basis, prices were still down by around 18 percent in 2016. This in turn led to a significant fall in government oil revenues, placing downward pressure on the government's fiscal stance. As a result, overall government spending, the engine of economic growth, was cut, with the largest cut coming from capital expenditures which were down by 37 percent from the 2015 level.

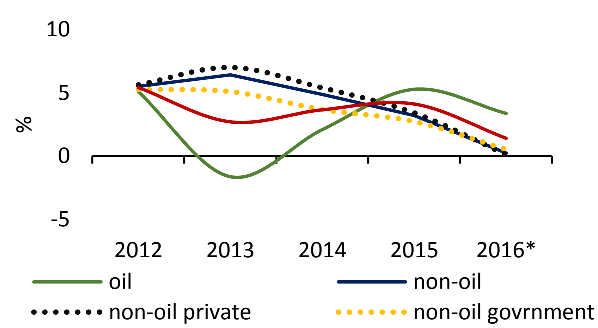
Despite the sustained downside pressure on the Saudi economy, real GDP growth remained positive in 2016. Real GDP grew by 1.7 percent, albeit at slower rate than the 4.1 percent in 2015. The oil sector remained the strongest driver of real GDP growth due to an increase in both crude oil production (up 2.8 percent) and refining activities (up 14.8 percent). In sharp contrast, both the government and non-oil private sectors slowed markedly, with growth rates of 0.6 percent and 0.1 percent respectively, a considerable decline from the corresponding 2015 rates of 2.7 percent and 3.4 percent (**Chart 2.1)**

These macroeconomic developments motivated the implementation of fiscal consolidation, and structural reform programs. To reduce budget deficits, and turn the economy from its dependency on oil to a diversified set of sources for economic growth, the Saudi government launched its Vision 2030 initiative, which constitutes several programs including the National Transformation Program (NTP) 2020, and the Fiscal Balance Program (FBP), **(Box 2.1).**

Despite some short-term implications, the long run impact of the Vision 2030 is expected to ease the ties between the fiscal stance, and the real and financial sectors. As the economy is still fiscally dominated, the fiscal and structural reforms needed to transition to a diversified economy may imply some unintended consequences on economic growth, financial sectors' performance, and the fiscal stance. The transition may also induce some uncertainty as new laws and rules will be introduced. However, with a pragmatic implementation of the reform, such consequences will abate in the long run. More importantly, the achievement of the Vision 2030 would help reduce macroeconomic and financial vulnerabilities against oil price volatility and changes in the fiscal position.

Since the announcement of the Vision 2030, transparency and public communication have increased significantly, which helped reduce uncertainty and increase credibility. Furthermore, other programs were introduced to offset the adverse impact of some reforms, such as the "Citizen Account" program which is designed to reduce the impact of subsidy removals. A continuation of such measures will be a corner stone for easing its short run implications and ensuring a successful economic transformation.

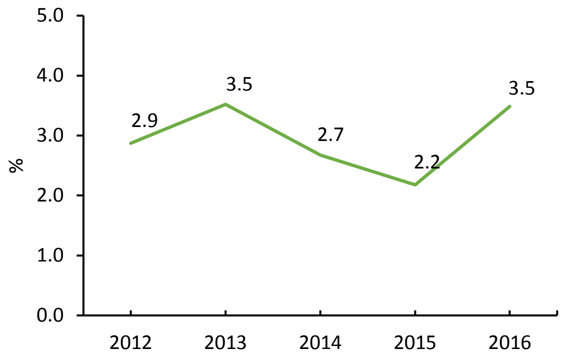
Chart 2.1: GDP Growth by Producing Sector



Source: General Authority for Statistics * Provisional

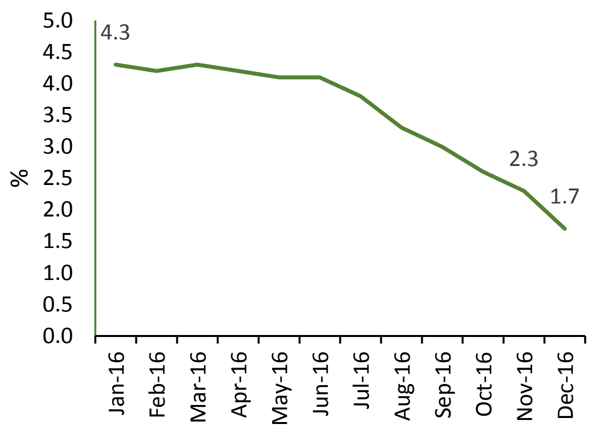
In 2016, changes in inflation rates were mainly driven by the reforms of subsidies on energy and water prices. The inflation rate increased to an average of 3.5 percent on a year-over-year basis, compared to 2.2 percent in 2015 **(Chart 2.2)**. The main factors contributing to the increase were the energy and water price reforms implemented in early 2016. These developments in turn led to higher monthly prices when compared to the same month in the previous year. In particular, the year-over-year price change reached 4.3 percent in January 2016, and then began to decline until it ended with a rate of 1.7 percent in December on a year-over-year basis **(Chart 2.3)**.

Chart 2.2: Inflation - Yearly



Source: General Authority for Sataistics

Chart 2.3: Inflation - Monthly



Source: General Authority for Statistics

Evidently, monthly inflation rates reflected disinflationary pressures (Chart 2.3). This was mainly due to slowing economic growth, and lower aggregate demand for goods and services. The impact of the partial subsidy removal was temporary and had only resulted in a one-time shift in the general price level, after which inflation rates resumed their downward trend. As further future subsidy reforms are expected to have similar impact, it is important to ensure easing the disinflationary pressures through policies that stimulate economic growth, attract investments, and increase aggregate demand.

Box 2.1

Economic Objectives of Vision 2030

Saudi Arabia has committed to transform its economy from its dependence on crude oil to a more diversified economy, making it less vulnerable to bouts of oil volatility. To achieve this transformation, Saudi Arabia has launched its Vision 2030, which is built on three pillars – economic, social and governance. Vision 2030 aspires to achieve sustainable economic growth as well as promoting the economy's resilience to external shocks. Vision 2030 has launched several initiatives, contained in the National Transformation Program (NTP) 2020, aiming to accomplish various social and economic goals. Each government entity, based on the NTP 2020, has a key role in diversifying the economy through the outlined strategies, all of which contribute in building a sustainable and more resilient economy. The key economic targets outlined in the vision to be accomplished by 2030 are to increase:

- Contribution of the private sector in the GDP from 40 percent to 65 percent.
- Non-oil government revenue from SAR 163 billion to SAR 1 trillion.
- Share of non-oil exports in non-oil GDP from 16 percent to 50 percent.
- Employment, via the reduction in the Saudi unemployment rate from 11.6 percent to 7 percent.
- Percentage of local content of the oil and gas sectors from 40 percent to 75 percent.
- Local content to more than 50 percent of military equipment expenditures.
- Contribution of small and medium-sized enterprises (SMEs) to GDP from 20 percent to 35 percent.
- Share of foreign direct investment of GDP from 3.8 percent to the international level of 5.7 percent.
- Public Investment Fund's assets from SAR 600 billion to over SAR 7 trillion.
- Ranking on the relative size of the economy in the world from 19th to the top 15.
- Ranking on the Global Competitiveness Index from 28 to be among the top 10.

These goals, accompanied by additional social and governmental goals (as documented in Vision 2030[1]), would contribute in driving the economy toward a well-diversified one driven by the private sector rather than the public sector. To pursue these goals, the government has been implementing a series of structural reforms since 2016 promoting a more sustainable economy[2].

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1. For more details, see www.vision2030.gov.sa
2. In addition to the above-mentioned objectives, the Fiscal Balance Program (FBP) has been launched in 2017 with the objective of balancing the fiscal budget by 2020.

2.2 Monetary Developments

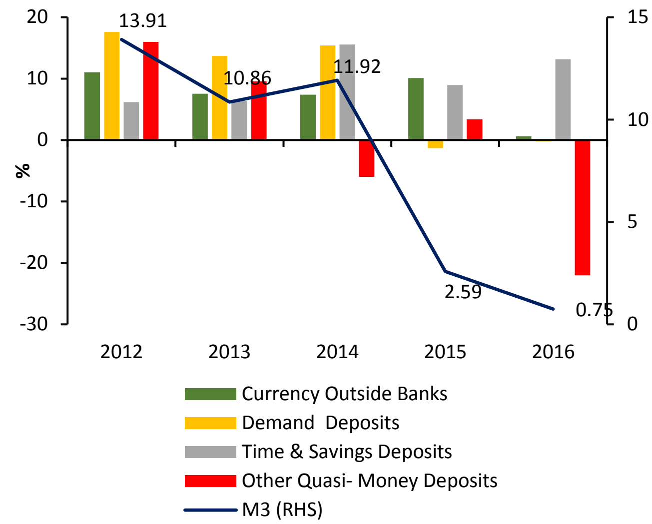
2.2.1. Monetary Aggregates

The 2016 growth in the monetary aggregates continued its slow pace from the previous year. The monetary base recorded the lowest growth rate since 2001, around 0.6 percent compared to a growth rate of 6.3 percent in 2015. Likewise, the 2016 growth in the money supply slowed considerably, particularly for the narrow and broad money supply (M1 and M3 respectively). These monetary developments were associated with the reduction in government spending necessitated by the lower oil prices. Thus, the decline in the growth rate of the aggregates was due solely to the demand for money, reflecting the slow growth of the non-oil sectors of the economy. Such developments, however, were expected as they have been, historically, witnessed several times during times of low oil prices and reduced government spending.

The broad money supply (M3), a measure of overall liquidity, witnessed a slower growth pace during 2016. It showed a slower growth rate of 0.8 percent, a decline from the 2015 growth of 2.5 percent. The lower growth rate in M3 was due to the deceleration in growth of its overall components with the exception of time and saving deposits. This component experienced an acceleration in its growth rate up to 13.1 percent in 2016, versus a 2015 growth rate of 9.0 percent. This faster growth can be attributed to SAMA's injection of about SAR 35.0 billion[2] in the form of deposit placements with domestic banks in 2016.

Much of the lower growth in the other M3 components can be attributed to the sharp decline in other quasi-money deposits, which declined by 22.0 percent in 2016. Also contributing to the lower growth was a sharp contraction in the growth of currency outside banks, which only grew by 1.1 percent, versus a 9.6 percent growth in 2015. Demand deposits shrank in 2016 by 0.2 percent, which improved from the 1.3 percent drop in 2015 (**Chart 2.4**).

Chart 2.4: Growth Rates of M3 and its Components



2.2.2. Reserve Assets

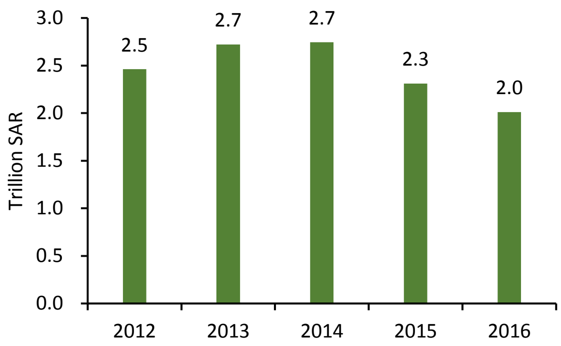
Maintaining a solid foreign reserve position is fundamental to supporting the fixed exchange rate policy. Foreign reserves are also essential in providing financial resources in case of any unexpected challenges facing the economy. In this context, the Saudi government's deposits, invested abroad by SAMA, have contributed to building up of foreign reserve assets during oil market booms over the past decades. As a result, the government is able to rely on its reserve assets to mitigate any sudden risks facing its economy. The accumulated buffers enabled the government to mitigate the downward pressures on its fiscal balance during periods of low oil prices, such as in the 2009 worldwide recession.

In 2016, SAMA's total foreign reserve assets continued to decrease but remained high. The stock of reserve assets declined from SAR 2.3 trillion in 2015 to around SAR 2 trillion by end of 2016 **(Chart 2.5)**. However, even with the current level of foreign reserves, Saudi Arabia is ranked among the top ten countries worldwide in terms of the stock of foreign reserve assets. The current stock of reserves is sufficient to cover, at least, 33 months' worth of imports. Furthermore, the rate of decline in the reserve assets has slowed down from around 15 percent in 2015 to 13 percent by the end of 2016, a sign

[2] The deposits were placed in two rounds; the first was a SAR 13 billion deposit by SAMA while the second was a SAR 22 billion deposit that SAMA placed on behalf of government entities.

of abating due to fiscal consolidation, revenue diversification and international debt issuance.

Chart 2.5: Total Reserve Assets



The current level of the reserves does not pose financial stability concerns. SAMA's foreign reserve assets remain more than adequate to support the monetary anchor (the FX rate) as well as economic activities. It, currently, equates to, at least, 84 percent of the countries' GDP. It is important, however, to be mindful of the implications of a steeper decline of the reserves on financial stability.

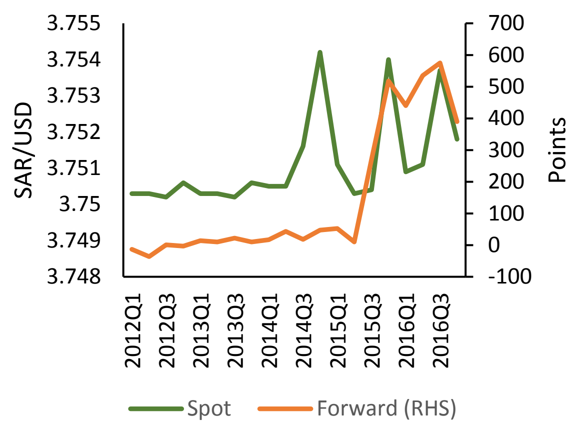
The very low level of public debt and diversification of debt financing have alleviated the pressure on the foreign reserves. About 34 percent of the cumulative deficits in the last two years have been financed through the issuance of domestic and foreign debt. These debt issues have been routinely oversubscribed, with relatively low yields, showing high appetite for Saudi sovereign bonds in financial markets (both internationally and domestically). The total debt burden at the end of 2016 was about 13.2 percent of nominal GDP, one of the lowest figures in the G-20.

2.2.3 Exchange Rate

SAMA remains committed to its exchange rate policy. The Saudi riyal is fixed at SAR 3.75 per US dollar. In 2016, there was relatively minimal pressure on the exchange rate due to SAMA's strong commitment to its exchange rate regime

Volatility in the Forward market has largely tapered off into 2016. Despite some swings in the price, the market has largely adjusted to Saudi Arabia's strict position in maintaining the peg. The Saudi economy has demonstrated its capacity to handle speculation on the currency, and has vast reserves to quell any potential threat. Furthermore, Saudi Arabian policymakers have made clear their position on the exchange rate regime, with no plans to depeg **(Chart 2.6)**.

Chart 2.6: Saudi Riyal exchange rates



2.2.4. Interest Rates

Monetary normalization in the US did not pose a significant risk to the Saudi financial system, economic growth, or liquidity. SAMA's policy rate corridor (the spread between the Repo rate and the Reverse Repo rate) was narrowed by around 50 bps due to a cumulative 50 bps increase in the Reverse Repo rate[3], following interest rate hikes in the US. The impact of this monetary tightening on economic growth was insignificant due to its well anticipated modest adjustment and the fact that rates are still relatively low.

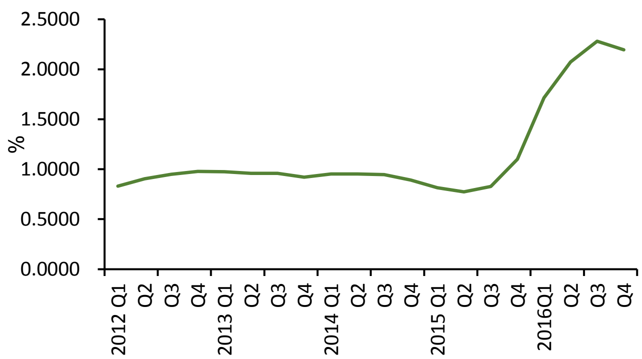
Nevertheless, the 3-month Saudi Arabian Interbank Offered Rate (SAIBOR), the interbank bench-mark rate, witnessed a disproportionate hike in 2016, due to a technically driven episode of liquidity squeeze. The 3-month SAIBOR rallied from an average of 1.1 percent at the beginning of 2016, to about 2.4 percent by the end of the third quarter of the same year **(Chart**

[3] The corridor was narrowed as a result of two rounds of 25 bps increase in the reserve repo rate in each round since 2015. As of February 2017, the rate was increased by another 25 bps reaching 1 percent.

2.7). The increase was due to tighter liquidity conditions caused by a shift of deposits from the banking sector to investments in government bonds, as well as some withdrawals of large government-related entities' accounts from the banking system.

SAMA's response to systemic liquidity squeeze resulted in ameliorating liquidity conditions during the fourth quarter of 2016. SAMA's money market intervention included relaxing Loan to Deposit Ratio (LDR) from 85 percent to 90 percent, placing SAR 35 billion with the domestic banks, reducing the ceiling of SAMA bills subscription from SAR 9 billion to SAR 3 billion, and offering longer dated Repos for 7-day, 28-day and 90-day tenors. Additionally SAMA engaged in restructuring the SAIBOR governance framework in compliance with IOSCO standards to ensure pricing transparency. As part of the new SAIBOR governance framework, Thomson Reuters was named as the official SAIBOR administrator and calculating agent.

Chart 2.7: Saudi Interbank Offer Rate (SAIBOR)



2.3. Fiscal Developments

The government's fiscal stance has been adversely impacted by the slump in oil prices since mid-2014. Although oil prices recorded some improvement during 2016, oil export revenues declined by approximately 12 percent in 2016 from the preceding year, which resulted in a drop in government oil revenues. Historically, oil revenues have accounted for around 80 percent of government revenues; thus, the decline has generated downward pressures on the fiscal balance, resulting in a budget deficit for the third consecutive year. Specifically, the budget deficit in 2016 widened to reach around SAR 311 billion compared to SAR 385 billion in 2015.[4]

This fiscal imbalance raised the need for government actions to control spending. Fiscal consolidation measures, which were initiated during the second half of 2015 and continued throughout 2016, have led to lower government expenditures. The government succeeded in cutting government expenditures by 15.1 percent in 2016 compared to the previous year's 11.5 percent drop.[5] This cut reflects the government's commitment to prioritize spending on public projects and achieve a higher level of efficiency. With regard to Current expenditures, data reflects a rise in Current expenditures during the course of 2016 by 1.7 percent, versus a decline by 3.4 percent in 2015. The rise in current spending in 2016 is mainly associated with the delayed payments by government to the private sector amounting to SAR 80 billion, which represented an accrued balance from 2015. Overall government spending declined by 6.6 percent in 2016 compared to the previous year's 11.5 percent drop.

Several revenue enhancement measures were implemented in 2016, as part of the Vision 2030, NTP 2020, and other initiatives. In 2016, the government applied its first round of energy and water price reforms, which gave an immediate boost to non-oil revenues. Further fiscal and structural reforms in the new programs are expected to contribute significantly in boosting fiscal balance. Such reforms include the introduction of excise taxes, the imposition of a value-added tax, a second round of energy and water price reforms, and undeveloped land taxes; all of which to be implemented in the 2017-2020 period. These new revenue sources are all part of the government's Fiscal Balance Program, designed to achieve a balanced budget by 2020, even with oil prices remaining at low levels.

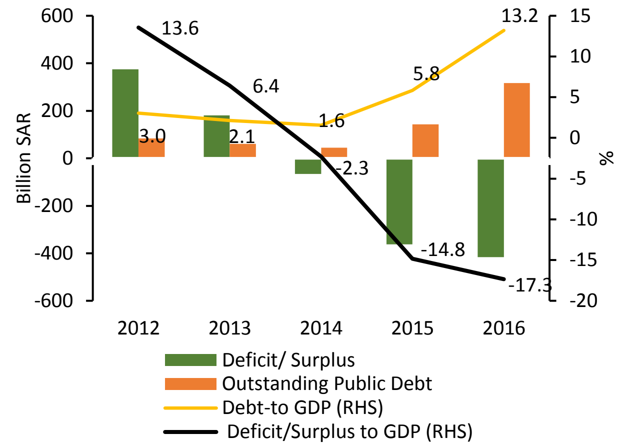
Notwithstanding the importance and need for fiscal consolidation measures, their gradual implementation would ensure containing the risk arising from fiscal-financial linkages. Fiscal

[4] The 2016 deficit figure of SAR 105 billion was for government payment for arrears.
[5] These percentages take into account capital expenditure figures that include spending on certain holy site projects.

developments are highly correlated with key economic and financial indicators, such as system liquidity, credit growth, money supply, inflation rates and economic growth. Therefore, it is essential that the implementation of structural reforms and fiscal consolidation measures are done gradually to ensure minimizing the unintended consequences of these reforms. For example, a sudden and large cut in government spending could have an impact on economic growth, risk deflationary pressures, and impact the demand for credit.

The government has partially financed the fiscal deficit by the issuance of public debt. Despite the substantial deficits over the past several years, the debt level remains in the comfort zone and does not pose any concerns with regard to sovereign risks or the crowding out of domestic private sector borrowers. The government's debt in 2016 reached to 13.2 percent of GDP, from 5.8 percent in 2015 **(Chart 2.8)**. In a more noteworthy change, for the first time since the 1980s, the government has resorted to both domestic and international sources to finance its budget shortfall. In terms of borrowing breakdown, the government raised USD 10 billion via syndicated loans from international banks in April 2016, issued its first international sovereign bonds for USD 17.5 billion in October 2016, which oversubscribed four times, and borrowed SAR 213.5 billion from domestic sources (i.e. an aggregate borrowing of 316.6 billion in 2016) [6]. The move towards borrowing from international markets has diminished the risk of crowding out the domestic private sector.

Chart 2.8: Fiscal Developments

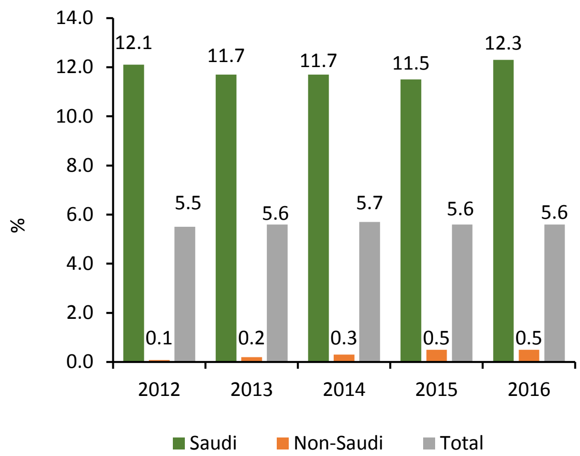


2.4. Labor Market

Although the increase in unemployment rates does not, yet, pose significant financial stability concerns, further deterioration in unemployment rates may spill-over to the financial system. The overall unemployment rate remained unchanged at 5.6 percent. However, unemployment rate among Saudi nationals increased from 11.5 percent in 2015 to 12.3 percent by the end of 2016, recording the highest rate since 2012 (**Chart 2.9)**. This increase was due to two factors - a slowdown in employment growth (due to slower private sector growth and less government hiring) and an increase in the Saudi labor force due to a higher participation rate of 42.2 percent. The slowdown in employment among Saudis is seen as a short-term side effect of the transitional fiscal consolidation and structural reforms and is expected to be temporary, given successful transitioning towards the Vision 2030 objectives. Nevertheless, further deterioration of unemployment rate, especially among Saudis, may result in an increase in the level of systemic risk as they may increase the probability of defaults among households and reduce aggregate demand.

[6] In April 2017, the government issued its first Sukuk issuance (Islamic bonds) worth $9 billion.

Chart 2.9: Unemployment Rates

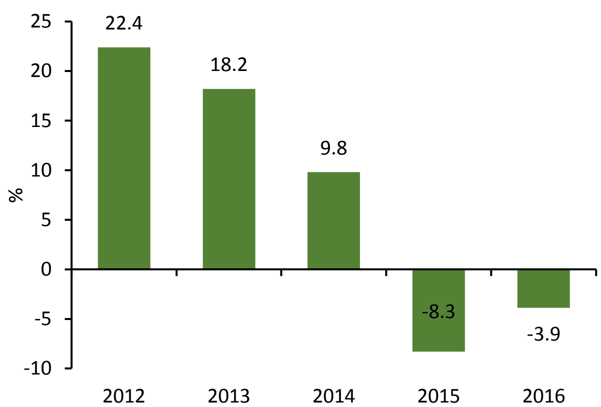


Source: General Authority for Statistics

2.5. External Sector

Since oil still comprises the largest share of Saudi exports, the current account remain vulnerable to oil price shocks. With increasing oil prices, the Saudi current account was in surplus over the past decade, at least until oil prices start falling in mid-2014. 2016 imports of goods and service measured in SAR terms declined by 23.5 percent, reflecting a drop in domestic demand for imports. As a result of these developments, the current account deficit shrank from SAR 213 billion in 2015 to 93.4 billion in 2016. **Chart 2.10** presents the current account balance as a percent of nominal GDP.

Chart 2.10: Current Account Balance (percent of GDP)



2.6. Saudi Economic Outlook and Risks

The main challenge facing the Saudi economy in the upcoming year would stem from the global oil market, which poses a challenge for fiscal policy. The oil prices rebounded due to the successful OPEC agreement of reducing oil production in late 2016, and an extension of this agreement to the second half of 2017 will reduce this risk[7]. We anticipate that the Saudi economy will grow at a slower rate in the short term, due to the negative growth of the oil sector caused by the production cut. On the other hand, a faster growth in the non-oil private sector is expected, due to the implementation of the Vision 2030 initiatives, which include promoting the role of the private sector in creating more jobs, increasing its contribution to GDP, supporting small and medium enterprises (SMEs), and reducing burden on fiscal policy through privatization and Public Private Partnerships (PPPs).

Living with a relatively low oil price environment is still manageable for Saudi Arabia for both the short and medium terms. This is true because Saudi Arabia still maintains a high level of its accumulated foreign reserves, notwithstanding the withdrawals from the reserves over the past two years, and retains the ability to finance deficits through the bond market with relatively low yields

Geopolitical tensions remain a risk across the MENA region. Regional instability could increase the vulnerabilities in financial markets, volatility of capital flows, as well as increasing oil market volatility.

[7] The agreement has been extended for nine months starting from July 1st, 2017.

3. Banking Sector: Operating Efficiency, Risks and Resilience

3.1 Overview

The Saudi Banking System continues to show strong resilience, despite the headwinds stemming from slower economic growth given the persistently low oil prices. Oil revenue is a large determinant in the growth of the domestic economy, and its volatility introduces some pressure on local growth prospects. Despite low oil prices following the sharp decline in late 2014; the banking system as a whole has remained profitable, with capital and liquidity measures indicating healthy buffers held by the domestic banks. Asset quality in the banking system has showed slight deterioration during the year, with indicators gauging somewhat increasing risk. Although there has been some deterioration in asset quality, it remains very low relative to total credit in the banking system. The banking system's profitability has marginally decreased. A key concern is that the continuation of the current macroeconomic environment may result in an extended slowdown of credit, impacting traditional avenues for revenue generation, which may a further source of profitability strain in addition to higher provisions. But this concern is largely mitigated due to sufficient capital buffer that domestic banks have in place. The domestic banking system has repeatedly shown a strong ability to endure strains stemming from the slowing economic growth due to the comprehensive regulatory framework put in place by SAMA, which ensures that it can act efficiently and anticipate any burgeoning risks.

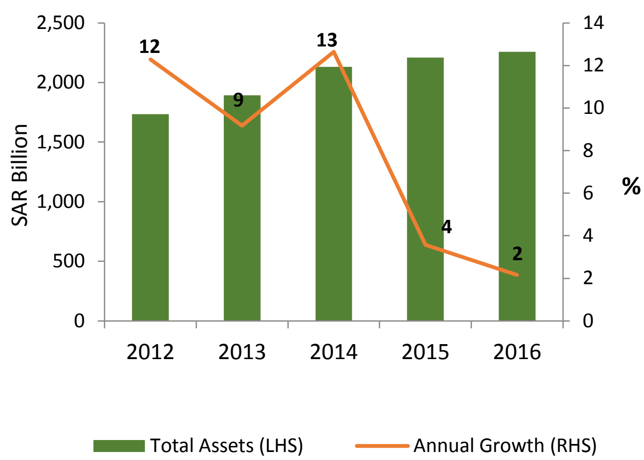
There was a brief period of tightening of liquidity during 2016, but due to SAMA policy actions, the pressure on liquidity eased back to normality by the end of the year. The domestic debt issuances program that began in 2015 and continued into 2016 has put some pressure on the banking system's deposits, resulting in higher market rates as banks competed for deposits to shore up funding. The liquidity pressure was short-lived due to prompt SAMA actions, causing market rates to trend down by the end of 2016, thereby bringing down the cost of funding in the interbank market. To ensure robust liquidity supervision, SAMA collects monthly (calculated by banks based on daily averages over the month) Liquidity Coverage Ratios from the domestic banks, which serves to anticipate any potential liquidity strains in the system, and it also ensures that domestic banks are adequately investing in their operational infrastructure to meet the reporting requirements.

SAMA continues to ensure strict compliance with the measures put forth by the Basel Committee on Banking Supervision (BCBS). Additional capital measures help ensure that risks stemming from linkages to the other sectors of the economy, as well as risks emanating from banks that have a disproportionately strong presence in the domestic banking system are thoroughly accounted for. In this regard, SAMA has issued guidance relating to domestic systemically important banks (D-SIBs) that has been put in place for 2016 (**Box 3.1)**.The capability demonstrated by SAMA in applying International Regulatory measures will ensure a complimentary financial system to the goals envisaged by Vision 2030. Furthermore, SAMA is currently in the implementation phase of its own Banking Vision 2020, which aims to further refine the Financial Sector in terms of financial inclusion, technological advances and increasing the skillset of the local labor force. SAMA's Banking Vision will be a critical pillar in ensuring a healthy financial system as the economy gears to transition away from one that is fuelled by oil revenues to a more diversified economic base, ensuring the success of the National Vision.

3.2 Balance Sheet Assessment - Banks Assets

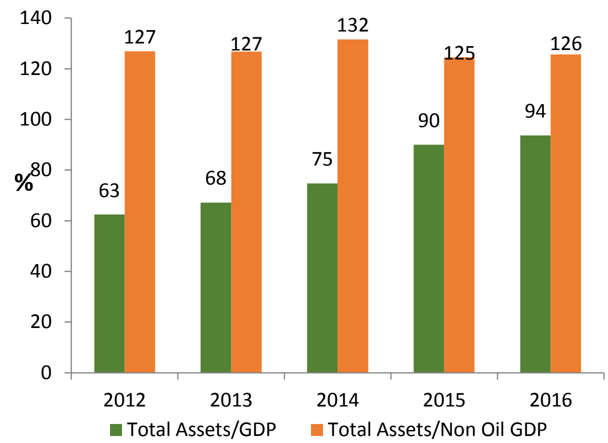
Despite the global and local economic and financial conditions, the Saudi banking system has continued to grow, albeit moderately. In 2016, their asset base expanded by 2.1 percent to SAR 2.2 trillion, which is lower than the average growth of 8 percent during the past five years. **Chart 3.1** is about growth of bank assets, reflecting the current slowdown in economic output.

Chart 3.1: Growth Pattern of Bank Assets



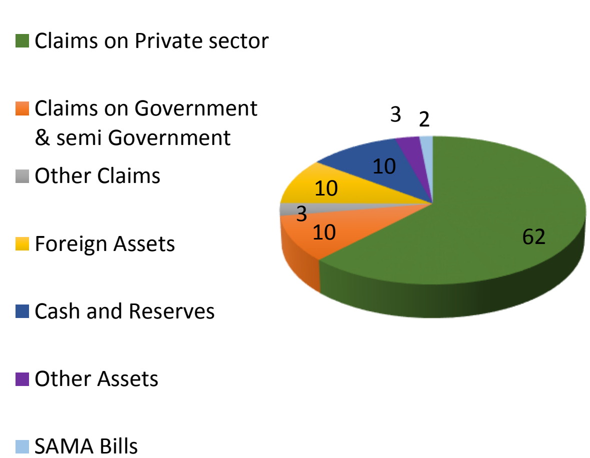
While asset growth slowed down, it outpaced growth in nominal Non-Oil GDP, signalling the possible growth of non-productive financing if the economic climate were to persist. The annual growth of banks' assets in 2016 exceeded the growth in both Total GDP and Non-Oil GDP, while this has occurred sporadically in previous years, a sustained trend may potentially lead to a less productive use of financing. The aforementioned concern can be noted in its effect on the ratio of banks' assets to Total GDP, which has been consistently increasing over the past five years, reaching 94 percent in 2016. The share of banks' assets to Non-Oil GDP increased to 126 percent **(Chart 3.2)**, which has remained relatively stable over the past 5 years, despite a slight uptick in 2014, it still remains below historical trends. It should be noted that while assets relative to the Non-Oil sector are greater than 100 percent, it is not indicative of excessive credit in that sector, given that a share of banking assets are used to finance the oil sector.

Chart 3.2: Bank Assets Relative to GDP and Non-Oil GDP



Saudi banks' assets continue to be concentrated in the domestic market, limiting cross-border contagion risk. Claims on the domestic private sector continue to constitute the bulk of banks' assets, which account for 62 percent of the total, and exposures to domestic debt securities are the second largest component at roughly 12 percent **(Chart 3.3).** While the heavy concentration may serve to mitigate any risks emanating from abroad, the lack of geographic diversification exposes banks to the cyclical nature of the local economy.

Chart 3.3: Distribution of Bank Assets (Percentage)



Box 3.1

A Framework for Dealing with Domestic Systemically Important Banks in Saudi Arabia

I. Introduction

The Basel Committee on Banking Supervision (BCBS) in November 2011 issued the rules text on the assessment methodology for Global Systemically Important Banks (G-SIBs) and the additional loss absorbency requirements over and above the Basel III requirements that have been introduced for all internationally active banks. The G20 leaders also asked the BCBS and the Financial Stability Board (FSB) to work on modalities to extend expeditiously the G-SIFI framework to Domestic Systemically Important Banks (D-SIBs).

Accordingly, the BCBS developed assessment methodology to identify and designate D-SIB banks in the domestic economies of National Jurisdictions. In this regard, SAMA has developed an assessment methodology based on an indicator-based measurement approach for assessing and designating D-SIBs in Saudi Arabia that is consistent with the BCBS D-SIB assessment methodology. The selected indicators are chosen and calibrated to reflect the different aspects and operational dynamics of the Saudi Arabian Banking System that generates negative externalities and makes a bank critical for the stability of the financial system. Further, SAMA's assessment considers bank-specific characteristics of systemic importance such as size, interconnectedness, substitutability, and complexity, which are correlated with the systemic impact of failure. There are 6 banks that have been labeled as D-SIBs, with 1 required to hold a 1 percent capital buffer, and 5 to hold a 0.5 percent capital buffer.

II. The Assessment Methodology

The assessment methodology for D-SIBs reflects the potential impact of, or externality imposed by a bank's failure. Thus, the reference system for assessing the impact of failure by D-SIBs is the domestic economy. The impact of a D-SIB's failure on the domestic economy, or the assessment and designation of D-SIBs in Saudi Arabia is assessed annually having regard to bank-specific factors combined with SAMA's discretion (based on supervisory judgment). Thus, the assessment and designation process for D-SIBs by SAMA takes place in February of each year based on year end data.

D-SIBs identified and designated by SAMA under this methodology are required to comply with the Higher Loss Absorbency (HLA) measures with effect from January 2016. The bank's degree of systemic importance is assessed at a consolidated level. The methodology of designation for the D-SIBs in Saudi Arabia is based on four categories as summarized in the below table:

Table 2: Categories, sub-categories and weights used in SAMA's D-SIBs Methodology:

Category (weight)	Individual Indicator	Indicator Weighting
Size (30%)	Total exposure as defined for use in the Basel III leverage ratio	30%
Interconnectedness (30%)	Intra-financial system assets: due from commercial banks, specialized banks, and other financial institutions.	10%
	Intra-financial system liabilities: due to commercial banks, specialized banks, and other financial institutions.	10%
	Total Marketable securities	10%
Complexity (10%)	OTC derivatives notional value	10%
Substitutability (30%)	Payments cleared and settled through payment system	30%
4 categories	**6 indicators**	**100%**

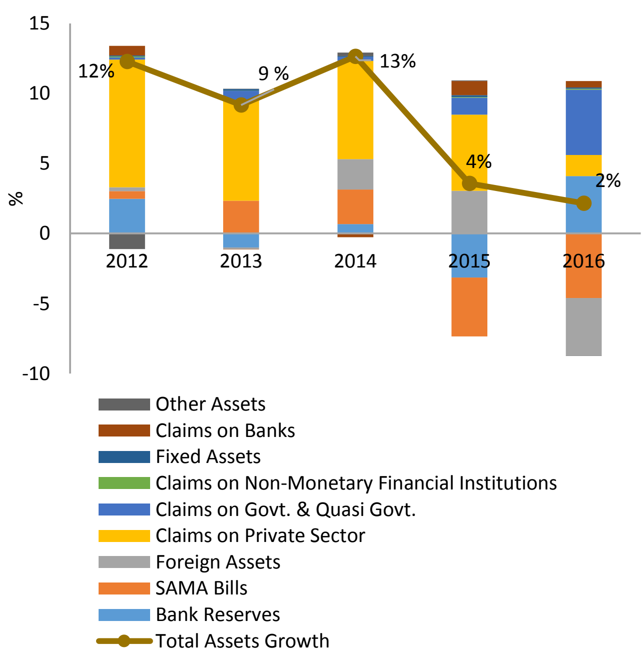
III. Higher Loss Absorbency (HLA)

The purpose of an HLA requirement for D-SIBs is to further reduce the probability of failure compared to non-systemic institutions, reflecting the greater impact a D-SIB failure is expected to have on the domestic financial system and economy. The HLA requirement imposed on a bank is commensurate with the degree of systemic importance, as identified under the assessment and designation process. Also, the HLA requirement should be met fully by Common Equity Tier 1 (CET1) Capital. The HLA capital charge will be calculated by SAMA based on the bank's degree of systemic importance determined in the scoring exercise and each bank is allocated a bucket based on its scores.

In addition, SAMA may put in place any additional requirements and other policy measures it considers to be appropriate to address the risks posed by a D-SIB including Recovery and Resolution Plans and other measures as deemed appropriate.

Bank assets have been shifting towards greater domestic debt holdings, indicating diminishing demand for credit. Following the drop in oil prices, a direct effect can be noted in the drivers of asset growth, beginning in 2015 and continuing into 2016. Namely, the decreased contribution of Private Sector Claims to Total Asset growth, which has historically been the largest component of balance sheet expansion. Claims on the Private Sector in 2016 reported an even smaller contribution to Total Asset growth relative to 2015 **(Chart 3.4)**. Banks in aggregate have been investing in Public Debt, resulting in a continued reduction in SAMA bills and an increasing contribution of Claims on the Public sector. Consequently, SAMA reduced the issue size of its weekly bills from SAR 9 Billion to SAR 3 Billion, that took place in September 2016. Ultimately, while banks have reduced their holdings of short-term securities, they increased their long-term holdings, thereby changing drivers of growth in the banking system's assets. The changing composition of asset growth may be indicative of waning credit demand, which is reflected in the 4 percent growth in Bank Reserves that primarily consists of the Banking System's Repo placements with SAMA indicating limited opportunities in expanding their balance sheets, as Repo placements would earn a lower return than a typical loan.

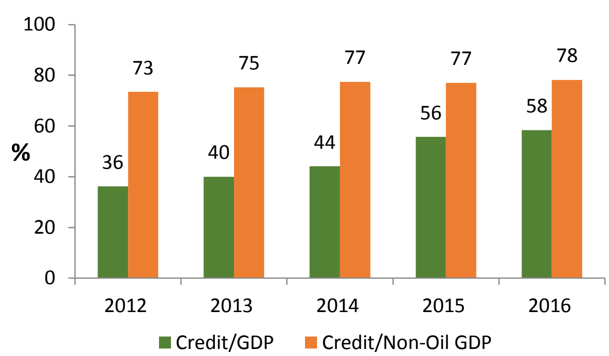
Chart 3.4: Asset Contribution to Total Bank Asset Growth (Percentage)



3.2.1 Banking Credit

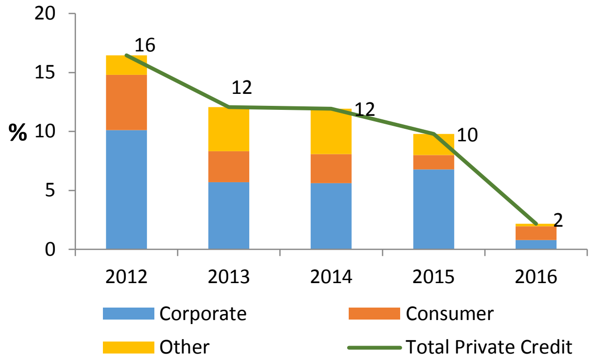
Bank Credit continues to slow down, but relative to GDP, the trend remains stable. Credit growth during 2016 was 2.2 percent, a marked slowdown from the 12.6 percent average growth rate over the past four years. Due to slowing growth, Credit to GDP and Non-Oil GDP remains relatively small. The share of Banks' Credit to both GDP and to Non-Oil GDP increased to reach 58 percent and 78 percent respectively, resulting in a minimal change in the ratio over the past two years (**Chart 3.5)**. The stability of the ratios is largely a reflection of the overall macroeconomic environment, suggesting that there is no excessive credit growth or risk taking. A slowdown in credit, that mirrors the declining economic growth, may limit concerns of elevated debt burdens, but it would hamper bank profits if the trend in economic growth were to continue. Despite the stability of the ratios, credit has been outpacing both Total GDP, and Non-Oil GDP growth, and further growth may result in some inefficient allocation of credit, since Bank assets are primarily composed of credit to the private sector. However, given signs of slowing demand for credit, the trend is not expected to diverge significantly from its historical average.

Chart 3.5: Bank Credit Relative to GDP and Non-Oil GDP



In contrast to the previous four years, credit growth in 2016 was largely supported by the Consumer Sector, reflecting the large slow-down in Credit to the Corporate Sector. The share of Credit to the Corporate Sector to Total Bank Credit decreased during 2016 reaching 56.9 percent compared to 57.7 percent in the preceding year. On the other hand, the share of Credit to the Consumer Sector increased to 25.2 percent from 24.6 percent last year. Because of declining economic growth, only 0.8 percent of Total Credit growth came from Credit to the Corporate Sector; while 1.2 percent came from Credit to the Consumer Sector **(Chart 3.6)**. The sharp slowdown in Corporate Credit may be a by-product of decreasing demand by the Corporate Sector due to future economic outlook, and possibly a conscious shift by banks to direct their lending activities to the Consumer sector, which tends to have higher asset quality.

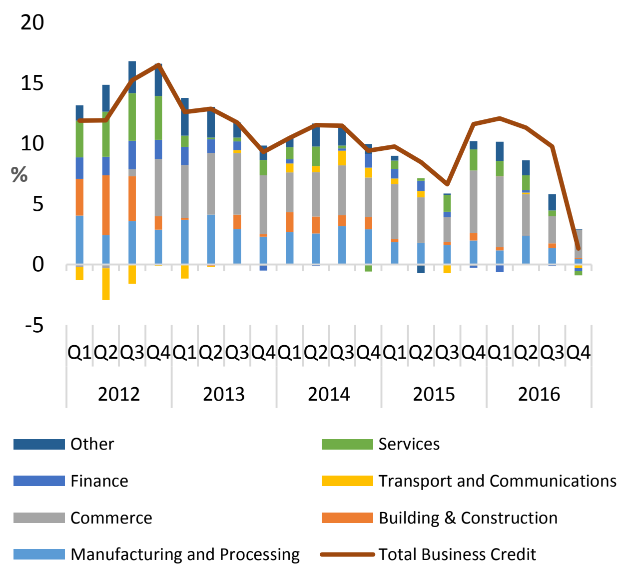
Chart 3.6: Sectoral Contribution to Growth of Bank Credit to Private Sector



3.2.2 Corporate Lending

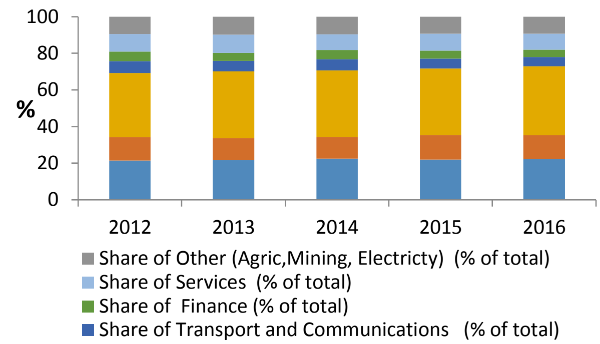
Banks' credit to the Corporate Sector has begun to taper off in 2016, reflecting the economic slow-down. Growth in the Banking System's Credit to the Corporate Sector has slowed down to 1.3 percent in 2016 compared to 11.6 percent in 2015. Given most of the Banking System's exposures are concentrated domestically, the sharp reduction in Corporate Credit is a reflection of slowing domestic growth.

Chart 3.7: Sectoral Contribution to Growth of Business Credit



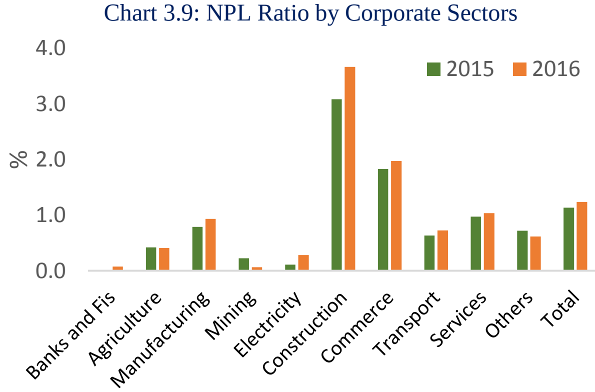
To mitigate any consequences from further deterioration in asset quality, it would be prudent for banks to diversify their exposures in order to contain credit concentrations. The commerce segment continues to be the strongest driver of Corporate Credit, since it has historically claimed the largest portion of bank exposures across all sectors **(Chart 3.8)**. Despite slowing credit, the underlying sectors that drive credit growth are relatively the same, wherein the components have slowed down proportionally, indicative of the strong uniformity across sectors in response to cyclicality in the domestic sector.

Chart 3.8: Sector-Wise Distribution of Corporate Loans



Despite the overall variation in the level of risk and asset quality among sectors, asset quality remains high and risk is contained. While there has been an increase in the Non-Performing Loan (NPL) Ratio for the majority of Corporate Sectors (except for Agriculture, and Others) the increase has been insignificant **(Chart 3.9)**. Furthermore, given the concentration of bank credit to Commerce, and to a limited extent, Construction, it follows that they have the highest NPL rates across all sectors. The concern is somewhat alleviated by the fact that total NPLs in the banking system have only marginally increased to 1.4 percent, which is remarkably low given the economic slowdown

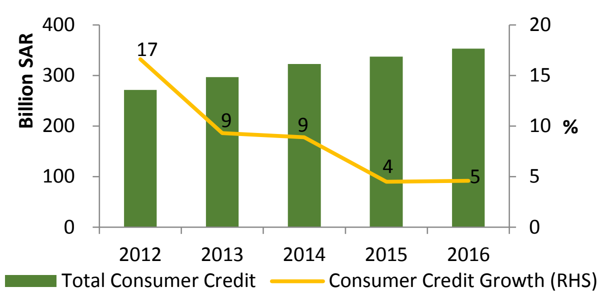
Chart 3.9: NPL Ratio by Corporate Sectors



3.2.3 Consumer Lending

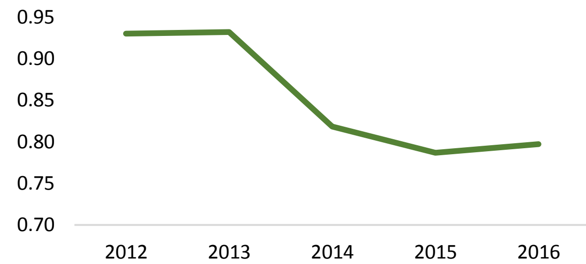
Credit to the consumer segment has grown in line with the previous year, suggesting that the consumer segment is more resilient to downside macroeconomic developments relative to the Corporate Sector. In 2016, growth in consumer loans recorded 4.5 percent reaching SAR 352.8 billion **(Chart 3.10)**, which constituted 25.2 percent of Total Bank Credit. Consumer Credit has over-taken the Corporate Segment in terms of credit growth, which is partially due to the relatively low risk nature of Consumer loans extended by domestic banks. It should be noted that the Consumer Sector continued to grow despite the austerity measures, which slightly reduced selected benefits of some employees in the Public Sector[8]. As a means to alleviate excessive leveraging by the affected households, SAMA acted swiftly and allowed the impacted individuals to reschedule their loans and only small segment went for rescheduling. However, if the slowdown in the economy continues, this may be reflected in the growth of the consumer segment, as individuals may seek to deleverage.

Chart 3.10: Growth Pattern of Consumer Loans



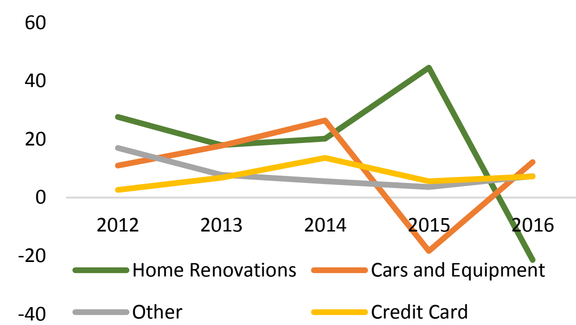
Credit quality of consumer loans remains high. NPL Ratio for Consumer and Credit Card loans was 0.8 percent in the 2016. Quality of consumer and credit card loans slightly deteriorated during 2015 **(Chart 3.11)**. The overall low levels of Consumer NPLs can be attributed to the salary assignment requirement for the majority of consumer credit extended by domestic banks. Although the salary collateral is a key tool in risk mitigation, a continued slowdown in economic climate may impact the employment status of some debtors. However, the risk is mitigated due to domestic banks extending credit to consumers in stable employment segments.

Chart 3.11: NPL Ratio for Consumer and Credit Card Loans



The make-up of consumer credit has remained relatively constant. In 2016, 8 percent of consumer Loans were spent on home renovation, while 9 percent of loans were used for purchasing cars and equipment. There has been a steep drop in Consumer Credit directed towards home renovations **(Chart 3.12)**, while credit for Cars and Equipment has slightly increased, but remains lower than the trend prior to 2014, a reflection of declining car sales which is a direct impact on the real sector due to the slowing economic growth.

Chart 3.12: Growth Patterns of Classified Consumer Loans



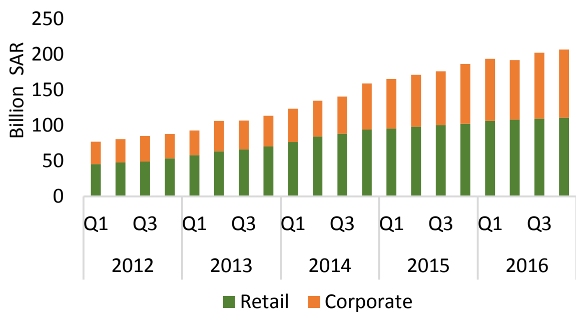
3.2.4 Real Estate Lending

Real Estate lending slowed down in 2016, as the market adjusts to developments in the sector. Relative to 2015, growth has dropped from over 17.3 percent to 10.9 percent in 2016. The composition of Real Estate lending was 47 percent for Corporate Lending and 53 percent for retail **(Charts 3.13)**. Although Real Estate lending growth slowed down in 2016, its share of Total bank lending has increased by one percent, reaching 14.8 percent. SAMA diligently monitors developments in the Real Estate sector, with the Loan To Value (LTV) serving as a valuable Macro-Prudential tool for SAMA to act

[8] Benefits of Public Sector Employees were partially resumed in the first quarter of 2017.

swiftly in response to any changes in the Real Estate sector (**Box 3.2).**

Chart 3.13: Distribution of Bank Loans to Real Estate

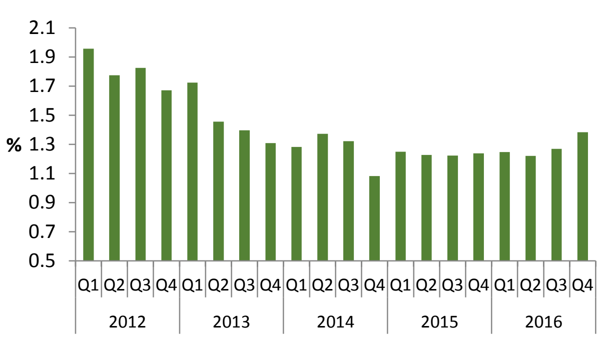


3.2.5 Asset Quality

The low levels of NPLs in the Banking System offer some room for banks to absorb any further deterioration in asset quality. Despite the increase in NPLs, they remain relatively low. The NPL Ratio slightly increased during the fourth quarter of 2016 to 1.4 percent relative to the 1.2 percent reported in the previous year **(Chart 3.14)**. The low NPLs indicate that the immediate risk from low oil prices has been contained, and with government spending largely unchanged, it appears that firms have been able to service their debt obligations.

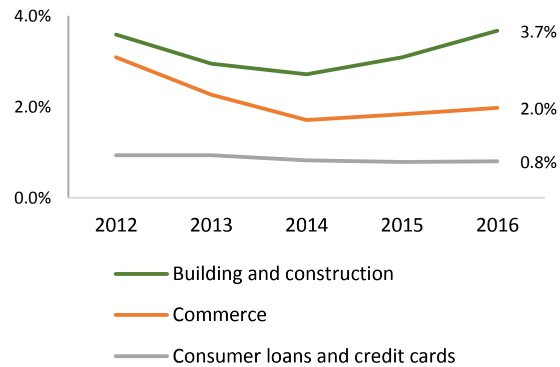
Although the short-term impact of low oil prices seems to have had a minimal impact on changes in NPL, a possible risk is the medium to long-term impact of slower growth in the economy as more businesses and consumers may be impacted. The concern over any potential deterioration in asset quality is mitigated by SAMA's conservative provisioning guidelines.

Chart 3.14: Quarterly Non- Performing Loan Ratios (NPL)



The slight increase in the NPL Ratio in the banking system has stemmed from sectors with historically elevated NPLs such as Construction and Commerce. The NPL Rate for the Consumer Segment remains low and in general tends to reduce the Total NPL Rate **(Chart 3.15)**. The rates for the Construction and Commerce sectors have risen to 3.7 percent, and 2 percent respectively, while there has been minimal change in the Consumer segment. Despite the increase in NPLs, all three sectors' NPL ratios were lower than what was recorded in 2012, indicating that the exposures in aggregate have been consistently improving up to late 2014 where the trend in decreasing NPL rates stagnated.

Chart 3.15: NPLs in Key Sectors

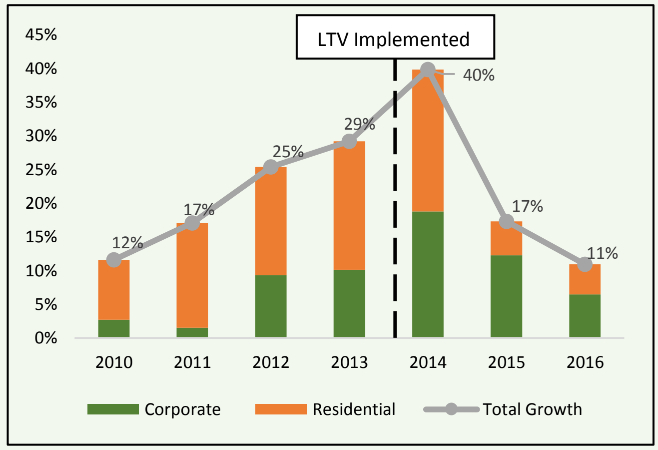


There have been no significant changes in the underlying proportions of the economic sectors that make up the banking system's NPL portfolio during 2016. Commerce, Construction, and Consumer loans account for approximately 28 percent, 29 percent, and 21 percent respectively of the total NPLs in the system. In terms of Credit, these sectors account for 9 percent, 13 percent, and 32 percent respectively. The Consumer Sector being the largest portion of the banking system's exposure, indicates that the relatively low NPL rates is partially due to the low risk nature of consumer lending.

Box 3.2

Loan To Value as a Macroprudential Tool

As a part of SAMA's commitment to build a comprehensive Macro-Prudential toolkit, and ensure the stability of the Financial Sector, SAMA included the Loan-to-Value (LTV) Regulation in 2013 as a part of the Real Estate Finance Law. The LTV was put into action in November 2014, and was initially set at 70 percent for residential Real Estate Lending. The LTV helps deliver SAMA's mandate of protecting and safeguarding financial stability, by curtailing speculative purchases, which may serve to increase volatility in the real estate sector, and possibly fuel asset bubbles.



During the period of 2010-2013, prior to the LTV implementation, there was a persistent increase in real estate lending that reached growth levels as high as 30 percent annually. Such high growth rates triggered concerns regarding the level of systemic risk in the real estate market and through banks' exposure to mortgage lending. Consequently, SAMA activated the LTV rule to help mitigate such risks and guard against a potential slowdown in the real estate market. Indeed, following the implementation of the 70 percent LTV, the growth of real estate lending substantially dropped. The impact of the LTV ratio was mostly observed in the residential mortgage lending. Previously, Real Estate lending to the residential segment was a stronger driver of growth. Following the LTV implementation, the strongest driver has been lending extended to the Corporate sector.

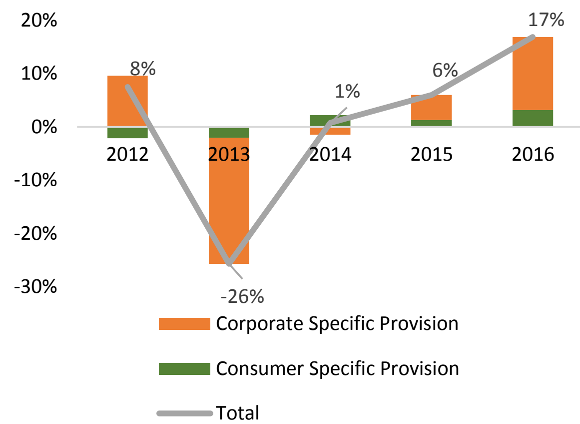
In 2016, SAMA relaxed its LTV requirement for Finance Companies (non- banks) from 70 to 85 percent based on the fact that such institutions are non-deposit takers and do not pose systemic risk. As signs of a slowing real estate market started to emerge by the end of 2016, SAMA revisited its banking sector LTV requirement and raised it to 85 percent (First Time Buyers) during the first quarter of 2017, in line with its countercyclical macroprudential framework, which aims to smooth credit intermediation during different financial cycles. In addition, SAMA also reduced the Risk Weight on Residential Mortgages from 100% to 75%. SAMA will continue to monitor developments in Real Estate lending to appropriately use the LTV in accordance with the needs of the market and the public at large.

Write-offs increased in 2016, but remain low relative to total credit extended; indicating the stability of loans remains intact. The banking system reported write-offs that amounted to SAR 7.8 billion in 2016, an increase from SAR 6.6 billion in 2015. Write-offs for the year were mostly concentrated in the Construction, and Consumer segment, where both accounted for 19 percent, and 61 percent respectively of the total write-offs. The growth in write-offs for 2016 was driven by the corporate sector, while the consumer segment decreased for the year. Despite the overall growth in write-offs, the amount remains small in terms of each respective sector's stock of credit **(Chart 3.16)**. Consumer write-offs make up 1.35 percent of total consumer credit, and the corporate accounts for 0.38 percent of total corporate credit. It should be noted that in 2013, the large increase in write-offs relative to credit for the corporate sector was not attributed to macroeconomic developments, but was due to the default of a large family conglomerate from 2009.

Chart 3.16: Write-offs to Total Credit by Sector

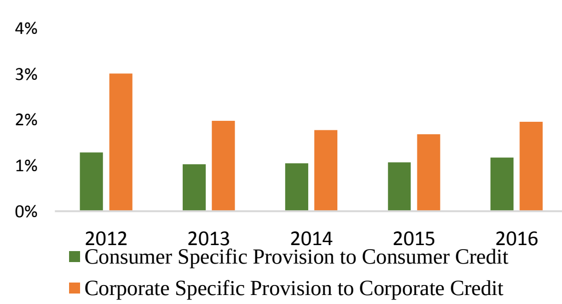
Growth in specific provisions have been outpacing the growth in total credit, suggesting further deterioration in credit quality of loans in the banking system. As a part of SAMA's regulatory efforts to ensure the stability of the Financial System, the banking system follows a comprehensive provisioning framework. The provision guidelines are composed of general, and specific provisions, the former is 1 percent of banks' credit portfolio, while the latter accounts for asset quality deterioration (as the quality of an exposure deteriorates, the amount of specific provisions increases). Underlying changes in specific provisions serve to capture actual downgrades of the banking system's exposures. As a rule, SAMA stipulates that banks provision against 25 percent of an exposure that is deemed Substandard[9], 50 percent of an exposure that is classified as doubtful, and 100 percent of an exposure that is considered a Loss. Growth in Specific provisions indicates that some portions of the Banking System's exposures have been increasing in risk. Specific provisions grew by 17 percent for 2016, largely driven by the corporate segment, which accounted for 14 percent, while the consumer segment made up the remaining 3 percent **(Chart 3.17)**.

Chart 3.17: Growth in Specific Provisions by Sector



Nevertheless, the increase in provisioning provides a cushion against any expected losses. Similar to write-offs, the growth of specific provisions indicates some pressure on the quality of assets, but as a share of total credit, they remain relatively low. In 2016, the corporate segment reported specific provisions to total business credit at 1.95 percent, and the consumer segment reported 1.17 percent relative to consumer credit (**Chart 3.18)**. The corporate sector reported a slight increase in the amount of specific provisions for the year, but remains below historical highs.

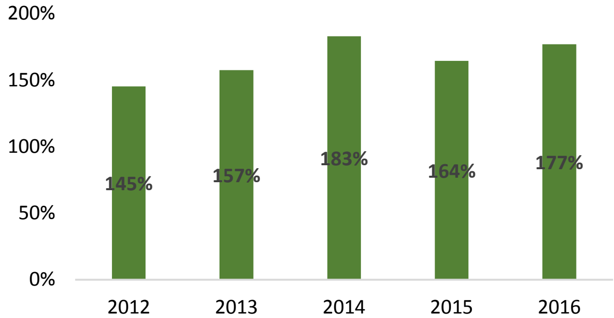
Chart 3.18: Specific Provisions to Total Credit



[9] As a general rule, the amount provided for is indicated by the number of days past due. Substandard (90-180), Doubtful (180-360), Loss (360 and Above).

The Banking System has sufficient provisions in place to contain further asset deterioration. Total Provisions as a ratio to NPLs increased to 177 percent for 2016 (**Chart 3.19),** which was greater than what was reported in 2015. The provision guidelines mandated by SAMA has ensured that the banking system built up healthy buffers to cover any potential downside shocks to their loan portfolio.

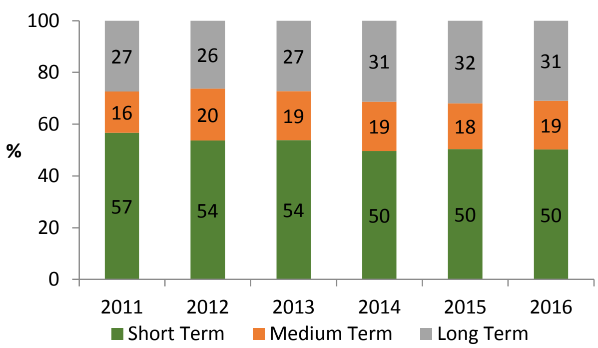
Chart 3.19: Total Provisions to Total NPL



3.2.6 Maturity Distribution of Banking Credit

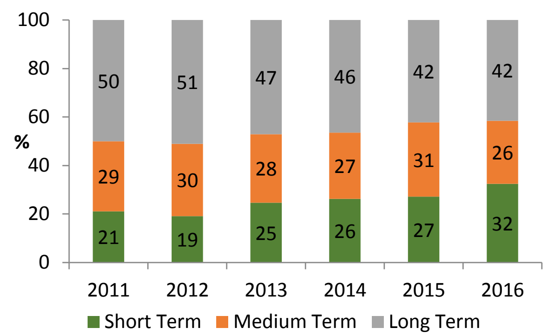
The maturity distribution of bank credit remains relatively stable[10]**, which bodes well for the system as long as term exposures are attached with higher risk.** The nature of lending extended is mainly concentrated in the short-term segment (**Chart 3.20)**, since the majority of exposures are dominated by the corporate sector which tends to rely on short-term financing.

Chart 3.20: Maturity Distribution of Total Bank Credit



There has been a slight increase in the portion of short-term exposures, a possible reflection of financing strains by households. Long-term loans represented about 42 percent by end of 2016, with no change from the previous year **(Chart 3.21).** The share of medium-term consumer loans decreased by 5 percent to reach 26 percent; while short-term loans rose by 5 percent to reach a portion of 32 percent. The increase in short-term exposures to consumer credit could be a result of the overall economic conditions, where consumers seek short-term solutions as a consumption smoothing mechanism.

Chart 3.21: Maturity Distribution of Consumer Loans



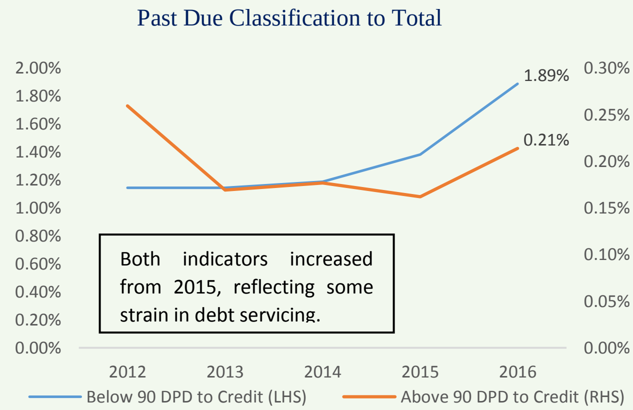
[10] Short term is less than 1 year maturity, Medium term is from 1 – 3 years and Long term is more than 3 years.

Box 3.3

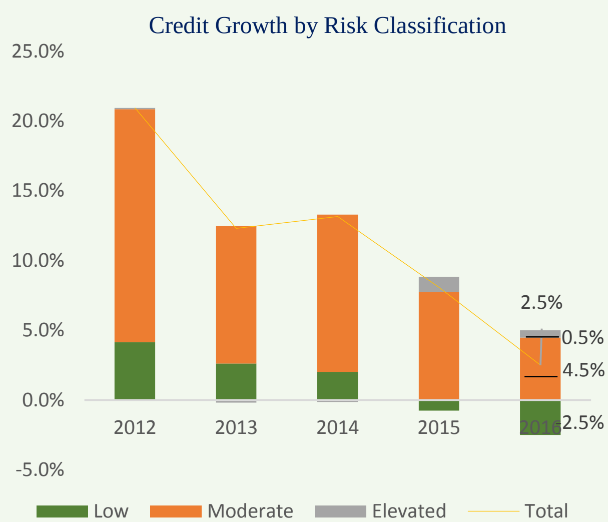
Credit Risk Developments

Asset Quality indicators such as Days Past Due (DPD) indicate some increasing credit risk during 2016. DPD accounts for the number of days that have passed since an obligor' missed payment, which sheds insight into future delinquency trends. DPD are often classified into four different buckets

- Between 0 and 30 Days.
- Between 30 Days and 60 Days
- Between 60 Days and 90 Days
- Greater than 90 Days



For the purpose of clarity, we have classified assets into two categories, Below 90 DPD and Above 90 DPD. The rationale behind the classification is that the nature of risk tends to be different for assets that are more than 90 DPD, as their delinquency may prove to be more persistent. Domestic banks in aggregate have reported an increase in assets that have been transitioning into DPD buckets. In 2016, Total Past Due exposures grew by 39 percent, the majority of the growth stemmed from the Below 90 DPD, which accounted for 35 percent of the growth, while the Above 90 DPD accounted for the remaining 4 percent of the total. The Below 90 DPD growth can be attributed to operational issues, but the concern is the movement into the Above 90 DPD bucket whose growth has outpaced credit growth in 2016. The increase in risk has been minimal when put in terms of Total Credit, as Total Past Due to Total Credit for the year amounted to only 2.1 percent, but the majority is concentrated in the Below 90 classification.



In addition to the DPD approach to gauging risk in the banking sector, banks' own risk classifications served as a useful indicator. Banks monitor risk levels by classifying their credit exposures into internal risk classifications. Due to the heterogeneity of the risk classifications among banks in the sector, the banks that entered the sample needed to have at least 3 classes of risk, which would shed more insight into the movement in risk within the domestic banking system. We have arrived at a sample of 8 banks based on internal classifications that report their performing exposures as per their internal risk rating system. In order to capture the appropriate risk movements, we have grouped the broad classifications into the following categories:

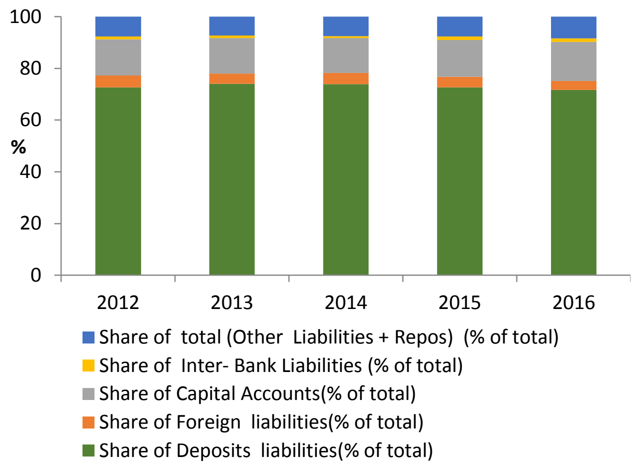
- **Low,** which are exposures of the highest quality.
- **Moderate**, which are slightly higher in risk than the low classification, but remain adequate.
- **Elevated,** which are considered performing but with notable deteriorating in the quality of the exposure.

Based on the sample of 8 banks, total credit in 2016 grew by 2.5 percent. The growth rate is comparable to the growth reported in section 3.2.1, indicating the sample accurately reflects trends in the banking system as a whole. The results indicate that the growth of credit for 2016 is largely driven by the Moderate classification, which accounted for 4.5 percent of the total growth in credit, the Low classification's contribution decreased by 2.5 percent, and the elevated segment accounted for 0.5 percent of Total Credit Growth. The growth rates of assets with the highest risk are relatively minor, and SAMA has been rigorously monitoring the changing levels of risk of the banking system's exposures.

3.3 Balance sheet assessment – Banking Liabilities

There is little change in the composition of bank liabilities, indicating that deposits remain the primary funding source for the Banking System. During 2016, Bank deposits represented 71.7 percent of banks' total liabilities, a modest decrease from the 72.6 percent of the previous year **(Chart 3.22)**. The decrease was mainly compensated by an increase in the share of Shareholder's Equity. SAMA vigilantly monitors deposits in the system, as to guard against any liquidity strains given its significant role as a source of funding for domestic banks. Interbank liabilities remain a small source of funding, reflecting that non-interest bearing deposits are the primary source of bank funding. Foreign liabilities continue to represent a small portion of liabilities, effectively containing potential cross border risk.

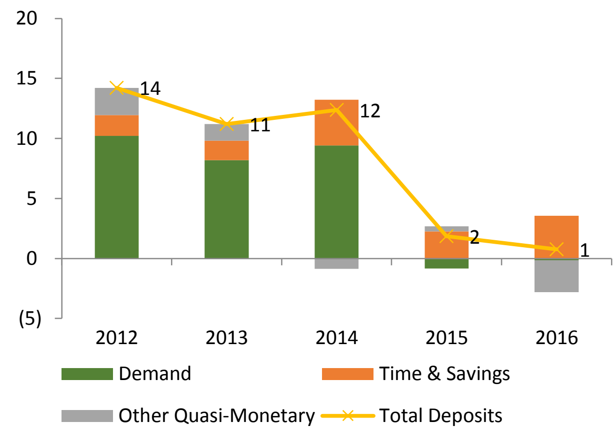
Chart 3.22: Distribution of Bank Liabilities



3.3.1 Banking Deposits

Given the economic conditions, deposits grew at a slow rate. In 2016, Total Deposits grew by 0.76 percent (**Chart 3.23)**, a continued slowdown from the previous year. There was little change in the contribution of Demand Deposits out of the total; it slightly decreased at a rate of 0.2 percent, which is a lower rate than the 1.3 percent reported in 2015. There are multiple factors that are contributing to the slowing growth in deposits, most notably, the domestic debt issuances. The Government debt issuance program was initiated by the Ministry of Finance that aims to diversify sources of financing, and alleviate pressure on the country's sizeable reserves. The domestic debt issuances, also served the need of meeting the local market's appetite for long-term debt securities. As Public Entities invested in the issuances, this prompted a drawdown on Deposits in the Banking System. The drawdowns resulted in some upward pressure on market rates, which bears monitoring for any meaningful impact of the economy. This is due to the nature of domestic exposures that are primarily composed of lending to the corporate sector, which are mainly short-term floating rate loans that rely on the SAIBOR as a benchmark. SAMA reacted to changing market conditions by relaxing the loan to deposit ratio from 85 percent to 90 percent, actively intervening through deposit placements and offering longer-term repos to ease the strain in the system. The support offered by SAMA was a key factor for the growth in Time deposits, these measures have served to bring down and stabilize market rates.

Chart 3.23: Deposit Growth Classified by Type

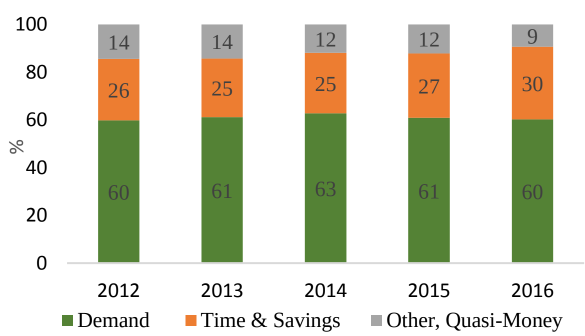


Demand deposits continue to be a primary source of funding for the banking system. However, the percentage share of time and saving deposits increased to 30 percent, while other quasi-money deposits[11] decreased to 9 percent **(Chart 3.24)**. Demand deposits remain to be specific characteristic of the domestic banking system, which presents some risk. Historically, in times of severe systematic stress, outflows from demand deposits have

[11] Other quasi-money deposits comprise of residents' foreign currency deposits, marginal deposits for LCs, outstanding remittances, and banks' repo transactions with private parties.

remained manageable without any detrimental effects. To further safeguard the stability of Deposits, SAMA has instituted the Deposit Protection Fund (DPF) in 2016, where all eligible deposits up to SAR 200 Thousand will be insured through a specific fund that is provided for by Banks in the system. Furthermore, as can be noted in the distribution of deposits in **Chart 3.24**, other and quasi-monetary deposits have a lower portion of system deposits, which is a byproduct of their negative growth. The change in their growth could be a function of domestic economic climate, especially since this category of deposits is composed primarily of outstanding remittances and marginal deposits for LCs. The smaller growth in Trade Finance calls for lower deposits, and the shrinking foreign labor force would bring down remittances. While its end effect on deposits is minor in magnitude, it serves as an indicator to the upcoming headwinds if the economic climate were to persist.

Chart 3.24: Distribution of Bank Deposits (%)



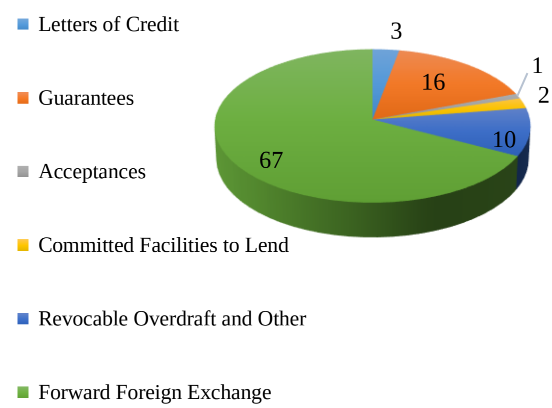
3.3.1.1 Maturity Distribution of Banks Deposits

Maturity-mismatch remains a concern. While the majority of bank exposures are of short-term to medium-term duration, deposits in the system remain concentred in sight deposits. There has been a concerted effort by policy makers to promote a saving culture in the country, which would serve to increase deposits of longer dated maturity. Even though the system bears some maturity-mismatch risk, SAMA ensures that domestic banks hold a sufficient amount of high quality liquid assets (HQLA), which can serve as a counter balancing capacity to guard against unforeseen outflows that are not matched by inflows. In addition, the banking system currently benefits from a large concentration of non-interest bearing deposits, since they increase their profitability margins leading to greater retained earnings bolstering Tier 1 Capital (highest quality of capital).

3.4 Off-Balance Sheet Operations

Decreasing economic activity has led to a notable decrease in Off-Balance Sheet Items. Banks' Off Balance Sheet transactions decreased by 15 percent, compared to a growth of 4 percent in the previous year. The total reached a level of SAR 1.8 trillion, but the amount is not indicative of the actual value at risk, since off-balance sheet transactions consist mainly of contingent liabilities, and derivatives at notional amounts. The domestic banking system's off-balance sheet activities are primarily concentrated in forward foreign exchange transactions **(Chart 3.25)**, which decreased along with the other components, most notably Letters of Credit (LCs) and Guarantees. The decline in all of these components reflects declining domestic growth, resulting in the corporate sector opening fewer LCs, and with imports declining there is declining demand for FX hedges.

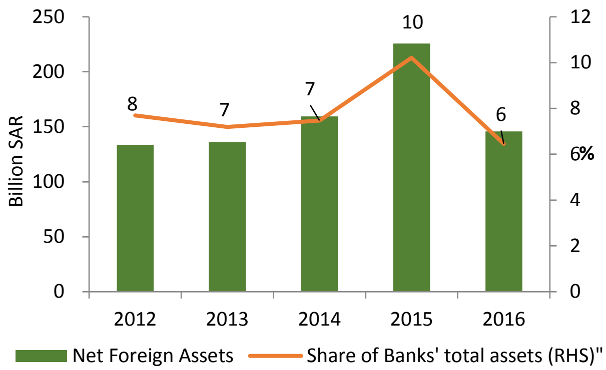
Chart 3.25: Components of Off-Balance Sheet in 2016



3.5 Foreign Currency Exposure

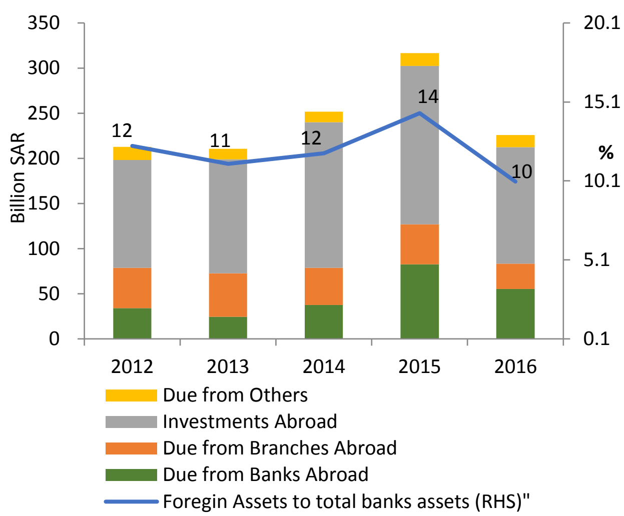
Foreign currency exposures have decreased significantly during the year, implying a decrease of risk arising from external shocks from international developments. During 2016, Net Foreign Assets (NFA), which is the difference between Foreign Asset exposures and Foreign Liabilities, decreased by 35 percent, reaching SAR 145.7 billion **(Chart 3.26)**, which are roughly 7 percent of Total Assets**.** Foreign assets are generally a small component of Domestic Bank Assets**,** with the largest component of Foreign Assets being investments. The other components of both Foreign Assets and Foreign Liabilities account for an even smaller portion of Total Assets and Liabilities, and tend to be held for operational purposes. The sharp decrease could be indicative of decreasing growth in correspondent banking activities which could be attributed to decreasing imports given the current economic climate.

Chart 3.26: Growth Pattern of Banks Net Foreign Assets



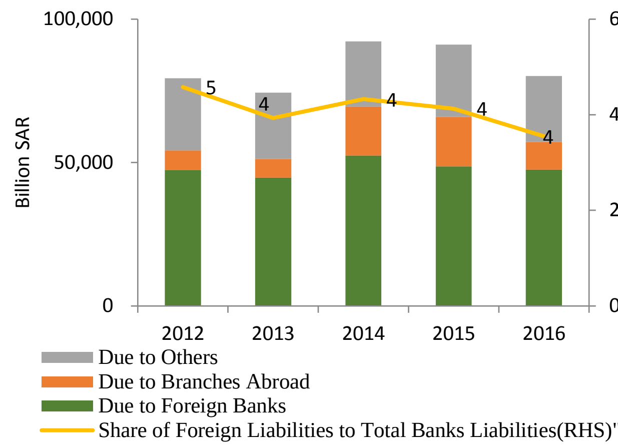
Foreign assets dropped significantly in 2016, indicating the Banking System's preference for Domestic Debt. A significant driver behind the decrease was the steep drop in investments abroad, which decreased by roughly 26 percent, the other components of Foreign Assets also reported decreases. A major contributor behind the drop-in investments abroad, was a transition towards domestic debt securities, as banks expanded their holdings of domestic debt.

Chart 3.27: Components of Foreign Assets



Similar to Foreign Assets, there was a significant drop in Foreign Liabilities, further containing the Banking System from global imbalances. In 2016, Banks' Foreign Liabilities fell slightly to SAR 80.1 billion, decreasing by 12 percent. The decrease in Foreign Liabilities, brought the ratio to roughly 3.6 of Total Liabilities (**Chart 3.28).** The decrease was mainly driven by balances Due to Branches abroad, which decreased by 44.4 percent, which could be attributed to less of a need for operational deposits as mentioned earlier.

Chart 3.28: Components of Foreign Liabilities



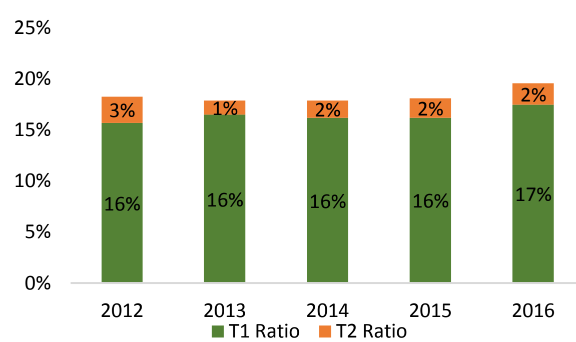
3.6 Banking Sector Resilience

Despite the economic slowdown, the banking sector remains resilient to weather the current economic climate. Despite the current macroeconomic backdrop, the banking system is well positioned to withstand further deterioration in assets. SAMA ensures that domestic banks are adequately provisioning for their entire loan portfolio and for loans that exhibited some credit deterioration, as per the rules governing Specific and General Provisions. Furthermore, domestic banks tend to follow a conservative write-off policy, specifically with their consumer loan portfolio, in addition to having sufficient capital buffers in place.

3.6.1 Regulatory Capital and Asset Quality

The strength of SAMA's Prudential Regulatory Framework is evident as banks continue to be tested, but their solvency position remains strong. In 2016, banks' Capital Adequacy Ratio (CAR) further increased to reach 19.5 percent.

Chart 3.29: Regulatory Capital to Risk-Weighted Assets

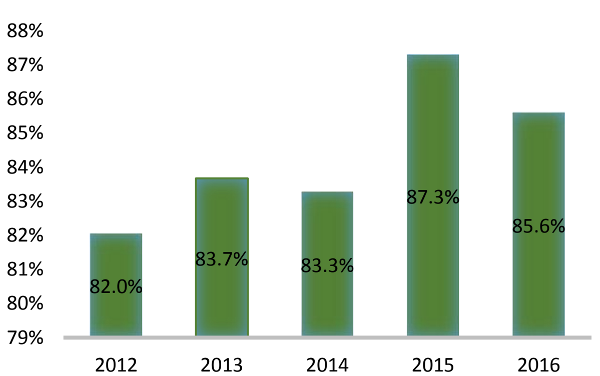


While there are some concerns over further asset deterioration, domestic banks are well positioned to protect depositors and maintain the solvency of the system and protecting depositors. With oil price staying relatively low during 2016, banks' strong capitalization served as a solid buffer to weather any unforeseen shocks to the quality of their assets. SAMA's prudential methodology ensures that individual banks under its supervision hold capital well above the global Basel requirement. The underlying components of Regulatory Capital have remained relatively stable, with Tier 1 Capital, the highest quality of capital, claiming the lion's share at roughly 89 percent, which primarily consist of common equity and retained earnings.

The increase in the CAR for 2016 has been primarily motivated by a shift towards assets that are relatively less risky. Chart 3.30 The ratio of the Banking System's Risk Weighted Assets (RWAs) to their Total Assets, peaked in 2015, reaching 87 percent, by 2016 the ratio has decreased, and is expected to continue declining if credit growth moderates in the medium-term and Banks increase their holdings of government debt.

The main concern over growing claims on domestic debt is that while it may increase the Banking System's CAR, it also increases the linkage between the System and Government. If banks, which tend to hold government debt to maturity, were to liquidate their holdings for balance sheet reasons, then it would be difficult to do so in the absence of a well-developed secondary market. Therefore, alternative options would be to engage in repo rollovers with SAMA or an outright transaction with SAMA, and this in turn increases the cost of funding (liquidity premium) for government bonds.

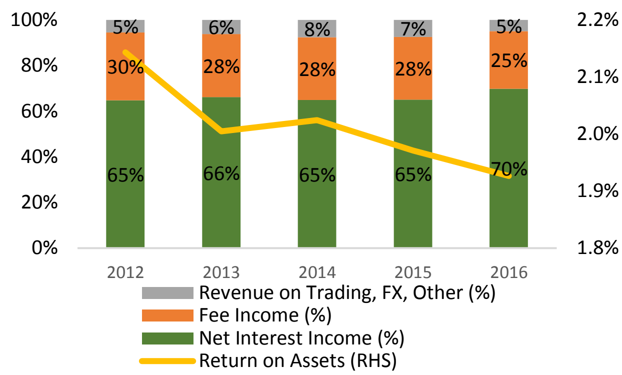
Chart 3.30: Ratio of Risk Weighted Assets to Total Assets



3.6.2 Profitability

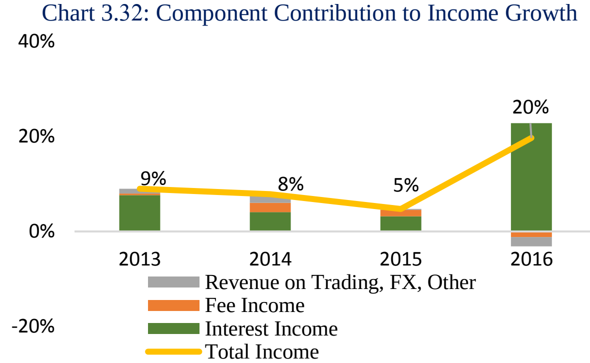
Higher provisions and liquidity strains hampered profitability in the banking sector. Domestic bank profits at the end of 2016 dropped to SAR 35.8 Billion, a decrease by 8.2 percent growth relative to the preceding year. Slowing growth in system wide loans proved to be a strain on profit opportunities, coupled with the increase in provision charges, and interest expense**.** The split between the components of gross income remain relatively similar to the previous year, but with Net Interest Income increasing its share as other sources of income decreased (**Charts 3.31).**

Chart 3.31: Components of Gross Income



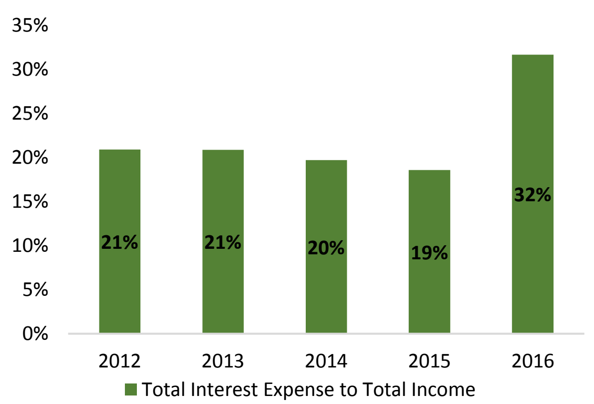
Rising rates in the later part of 2016 increased Interest Income, but had a greater effect on Interest Expense. Total Income for 2016 grew by 20 percent **(Chart 3.32)**, where the only driver was Interest Income, which grew by 22 percent as a share of Total Income Growth. Other sources of income, such as those from Fee's and Trading Activities, contributed to around a 3 percent decrease in Total Income. While the temporary rise in market rates served to outweigh the impact of declining profitability from other sources, the growth in interest income may slowdown going forward; given adequate liquidity in the system, coupled with declining demand for credit.

Chart 3.32: Component Contribution to Income Growth



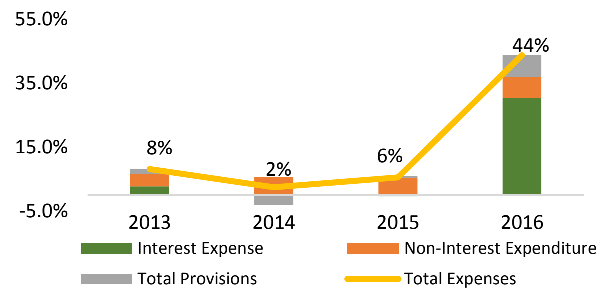
Total Expenses grew by a significant amount, primarily due to the short-lived period of tightening liquidity. Total Expense for 2016 grew at 44 percent **(Chart 3.34)**, where the primary contributor was Interest Expense, which grew at roughly 30 percent for the year. The great growth in expense was attributed to tightening liquidity conditions during the year, primarily due to some drawdowns in the system. The tightening liquidity may have prompted banks to offer more competitive rates to attract depositors, where the effect is noted in the large increase in Interest Expense. Interest Expense as a ratio to Interest income, hovered around 20 percent from 2012 through 2015, drastically increasing in 2016 to 32 percent (**Chart 3.33)**. The large jump in the ratio indicates the limited funding sources of the Banking System beyond their Non-Interest Bearing Accounts.

Chart 3.33: Total Interest Expense to Total Income



The rising market rates due to liquidity strains, impacted Interest Expense at a greater rate than Interest Income. When assessing the maturity profile of both Assets and Liabilities for domestic banks, interest bearing liabilities are concentrated in a shorter-term period relative to interest earning assets. Relatively tight liquidity in the system caused market rates to increase, resulting in interest-bearing liabilities being repriced at a faster rate than the Banking System's interest earning assets. While the loan book does consist of floating rate exposures, a portion of the banking system's exposures, namely consumer loans, are fixed, whereby the repricing of debt does not occur as frequently relative to the banking system's interest-bearing liabilities.

Chart 3.34: Component Contribution to Expense Growth

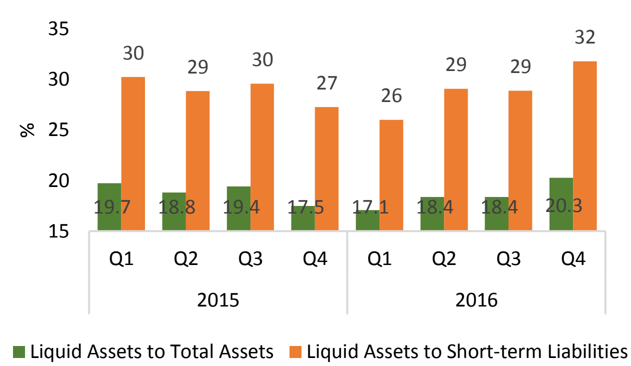


In addition to Interest Expense, Provisions reported greater growth for 2016, reflecting some asset quality deterioration in the Banking System. Provisions for 2016 grew at approximately 6.8 percent, while Non-Interest Expense grew at 6.5 percent. While Non-Interest Expense grew roughly in line with the previous years, Provision reported a greater increase in 2016 relative to 2015, where provisions only grew at 0.5 percent. Loan Provisions in the Saudi banking system consist of General and Specific provisions, the former is a function of the Bank's loan portfolio, while the latter would decrease and increase depending on the asset quality of the specific loan.

3.6.3 Liquidity

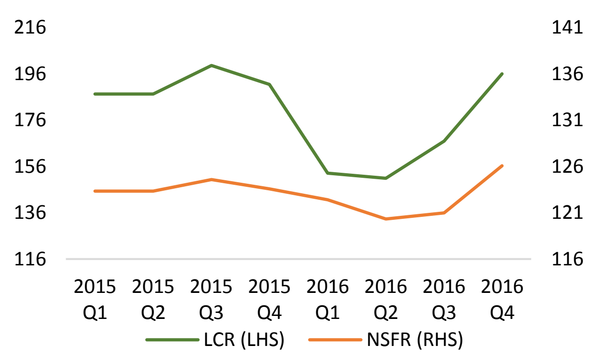
Liquidity was tested during 2016, but has returned to comfortable levels by the end of the year. During the early part of the year, greater than expected credit growth resulted in some pressure on the ratio of liquid assets to total assets (**Chart 3.35).** The ratio dropped to 17.1 percent in the first quarter of 2016, compared to 19.7 percent in Q1 2015. The drop in liquid assets to short-term liabilities was not quite as steep, decreasing to 26 percent in the first quarter of 2016, relative to 30.2 percent in Q1 2015, which can be attributed to the weaker deposit growth in the banking system.

Chart 3.35: Liquid Assets to Short-term Liabilities



Despite the tightening of liquidity, domestic Banks continued to exceed the minimum liquidity requirements proposed by Basel III. Both the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR) (**Chart 3.36)** have remained above the minimum requirements. The same period in which there was some pressure on the banking system's liquidity, there was a corresponding decrease in both the LCR and NSFR, dropping to 150.8 and 120.3 percent, respectively. Both ratios indicate that even during the time of a brief stress of liquidity, Basel's liquidity measures were well above the expected Basel Minimum of 100 percent for both LCR and NSFR by 2019. As the liquidity situation eased subsequently, LCR and NSFR increased to 196 and 126 by the end of 2016.

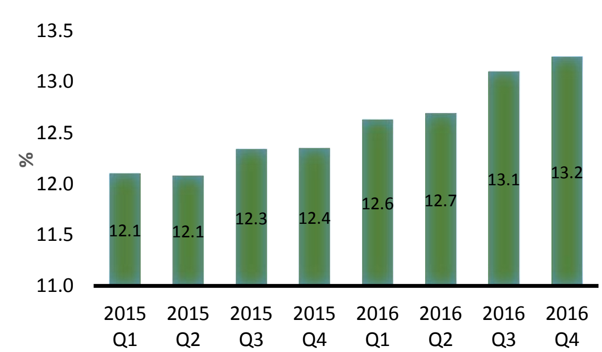
Chart 3.36: Liquidity Coverage Ratio & Net Stable Funding Ratio



3.6.4 Leverage

The banking system's leverage position continues to improve. Throughout the year, the leverage ratio as prescribed by Basel, continued to increase, reaching 13.2 percent by the end of 2016 (**Chart 3.37).** The leverage ratio for the domestic banking system remains much higher than the Basel minimum of 3 percent. The strong leverage position is a function of a well-capitalized banking system, and is expected to increase as credit growth tapers off.

Chart 3.37: Leverage Ratio



3.7 Risk Outlook of Banking Sector

The risks to the banking system largely stem from a continued decline in economic growth. A slower growth may impact credit growth. A potential risk is further asset quality deterioration which may impact the supply of credit as Banks become more cautious in their lending activities. However, as noted earlier, the Banking System is in a solid position to withstand lower profits during the medium-term, and have enough room to keep their risk appetite during the Vision 2030 transition.

The Saudi Banking System remains contained from headwinds stemming from global risks. As noted in section 1.5, the domestic banking system has relatively low exposures to the global market. Potential risk emanating from abroad would have little effect on the domestic system, and this has been historically tested during the Global Financial Crisis, where foreign exposures have been relatively similar to their current portion.

A key concern for the next year is some deterioration in asset quality. The **Table 3.1** offers a summary of the most pertinent indicators to gauge risks in the Banking system, where the greatest impact from the anticipated hikes would be on profitability. As a means to gauge the potential response from the Banking System, SAMA has incorporated two different scenarios in its Top-Down stress testing that relate to market rates in addition to shocking significant domestic variables, and the response of the domestic banking system was shown to be largely resilient (**Box 3.4)**. The results of the stress test reflect the strength of domestic banks in both a rising and decreasing market rate environment. The strongest downside effect on the Banking System's CAR would be from decreasing market rates. In the decreasing market rates scenario, the average CAR reaches roughly 19 percent, and NPLs projected to reach 2.07 percent by the end of 2019, both measures indicate a muted impact on overall system.

Table 3.1: Risk indicators in the banking system.

Indicator	Current Level of Risk	2017 Risk Outlook
Asset Quality	Low	Increasing
Solvency	Low	Stable
Liquidity	Low	Stable
Profitability	Low	Increasing

Box 3.4

Stress Testing of the Banking Sector in Saudi Arabia

As part of its risk assessment toolkit, SAMA conducts Top-Down macroeconomic stress testing of the Saudi banking sector on a quarterly basis. This Box provides an overview of SAMA's credit risk stress testing model, its assumptions, and its main results. The objective is to assess the resilience of the Saudi Banking Sector to absorb macroeconomic shocks, aiming to identify potential weaknesses on both an aggregate and individual basis to allow prompt Supervisory action. The credit risk stress test exercise has been carried out using bank level data, to bridge satellite models to gauge the resilience of the systems, which utilize statistically significant macroeconomic variables (Oil Prices, Government Spending Growth Rate, Implicit Lending Rates, SAIBOR, Tadawul All Share Index Growth Rate).

1. Stress Testing Scenarios:

The scenarios for conducting stress tests are based on (i) SAMA's macroeconomic model outcomes and (ii) Expert judgment. The stress test utilizes three different scenarios: Baseline Scenario, Macroeconomic Shock with rising interest rates, and a Macroeconomic Shock with declining interest rates. The three scenarios used in 2016 are summarized as below:

1. Baseline scenario - shows an improvement in oil price, which starts from $53 in 2017, and increases to $64 per barrel. Implicit lending rates and the SAIBOR are also assumed to increase gradually under this scenario. Government spending growth rates increase annually to 3.03 percent by the end of 2019. Finally, TASI and credit growth rates register positive but modest levels that reach 0.79 percent and 1.58 percent respectively, by the end of 2019.

2. Macroeconomic shock with rising interest rates scenario assumes a drop in oil prices (Brent) to around $25 per barrel in 2017, and recover modestly ending up at around $40, by end 2019. The drop in oil prices causes government spending to contract on a quarterly basis during our projected horizon, slightly easing with each passing year, eventually registering negative 6.85 percent on an annual basis during 2019. The SAIBOR is assumed to increase to 2.75 percent by the end of 2019, which increases the implicit lending rate that reaches 5 percent by the end of 2019. TASI, in this scenario is assumed to experience a shock similar in magnitude to the shock of Feb 2006, where it drops by 40 percent and then stabilizes at its new level. Finally, we assumed a negative scenario of credit growth similar to the scenario that happened in the late nineties (98-99) where growth contracts and decreases by 9.55 percent and begins to fluctuate but by the end of 2019 it began to improve and reached 2.31%.

3. Macroeconomic shock with decreasing interest rates scenario assumes a drop in oil prices to around $25 per barrel in 2017, and recovers modestly ending up at around 40$, by end 2019. Simultaneously, Government spending contracts to negative 6.85 percent on an annual basis by the end of 2019. The SAIBOR is assumed to fall from 2.20 percent in Q4 2016 to 1 percent by the end of 2019. This, in turn, is assumed to cause implicit lending rates to fall at faster rates from around 3.78 percent to 1.00 percent during the same period. The TASI drops by 40 percent and then stabilizes at its new level.

2. Stress test Results:

The stress testing results show that Saudi banks can easily withstand various economic shock scenarios. In the **baseline scenario**, the projected non-performing loan ratio slightly increases in the first quarter as a response to the shock, reaching around 1.71 percent but converges back to their normal levels of around 1.54 percent by the end of 2019. Consequently, the NPL coverage ratio drops to around 133 percent in the first quarter and converges back around its original level of 148 percent. Individual banks NPL ratios range from 2.27 percent (the upper percentile) to 0.61 percent (the lower percentile). The capital adequacy ratio (CAR) would increase throughout the stress period reaching around 22 percent by end-2019. The increase in CAR is mainly attributed to slower growth Risk Weighted Assets (RWAs) relative to total capital (Tier 1 + Tier 2).

Under the **macro shocks with a rise in interest rates scenario**, the results show that the projected non-performing loan ratio is expected to increase significantly (although still remain low relative to international standards) reaching a level of 2.26 percent by the end-2019. Individual banks NPL ratios would range from 3.74 percent (the upper percentile) to 0.82

percent (the lower percentile). Consequently, the projected coverage ratio would decrease to reach 114 percent by end-2019. The Projected CAR increases from 19.54 percent to 23.04 percent, compared to 22 percent in the baseline scenario and that's because of the contraction of credit growth which leads to decrease in the risk weighted assets (RWA) which is inversely related with CAR, so CAR will increase.

Under the **macroeconomic shock with a decrease in interest rates scenario**, non-performing loans (NPL) increase from 1.31 percent to reach 2.07 percent by the end of the three-year projection period; i.e., end of 2019. Individual bank NPL ratios range from 3.28 percent (the upper percentile) to 0.68 percent (the lower percentile). The coverage ratio decreases to 122 percent compared to 171 percent in the initial period of Q4 2016. The sector's CAR drops to around 19.34 percent by the end of 2019, which is attributed to the drop in capital as profitability of banks deteriorates due to the decrease in lending rates. Moreover, the increase in RWA results in a decreasing CAR due to the inverse relationship between the two. Individual bank's CAR ranges from the 21.73 percent (the upper percentile) to 17.17 percent (the lower percentile). Similarly, there is a decrease in Tier 1 capital ratio from 17.48 percent in the beginning of the period to 17.39 percent at the end of the stress period.

The stress test results using all three stress scenarios suggest that the banking sector remain well capitalized under large shocks. Banks capital adequacy ratios are still comfortably above the Basel requirement of 8 percent and, more importantly, above SAMA's threshold of a 12 percent of a minimum CAR requirement.

4. Non-Bank Credit: Recent Trends and Initiatives

4.1 Overview

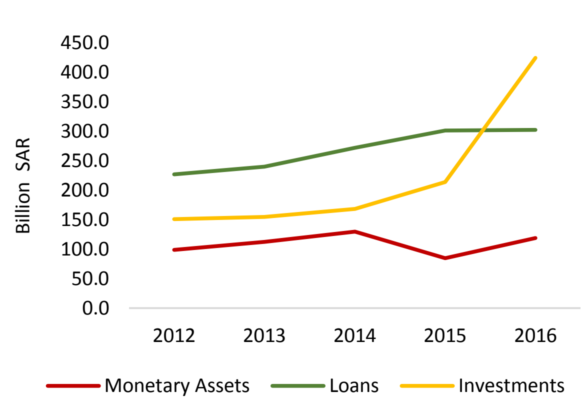
Non-Bank Credit institutions (NBCI) served to enhance the growth of the Saudi economy by providing another channel of credit. The NBCI are non-depositary institutions and consist of two major categories, the Specialized Credit Institutions (SCIs) and finance companies. However, the SCIs are government institutions and are funded by the government to target specific projects or sectors. On the other hand, Finance Companies are private companies focusing on real estate and leasing operation, and are regulated and supervised by SAMA

4.2 Performance of Specialized Credit Institutions (SCIs)

4.2.1 SCI Assets

Specialized Credit Institution assets have been continually expanding, supporting the growth of the non-oil private sector. The largest increase in 20 years was in 2016, in line with the government 2030 vision. In 2016, assets increased by 35.7 percent, reaching SAR 863 billion compared to SAR 635.8 billion in the previous year. Assets classifications include loans, monetary assets, and investments, which constituted 98 percent of total assets amounting to SAR 846 billion at the end of 2016 **(Chart 4.1)**.

Chart 4.1: SCIs Assets by Type

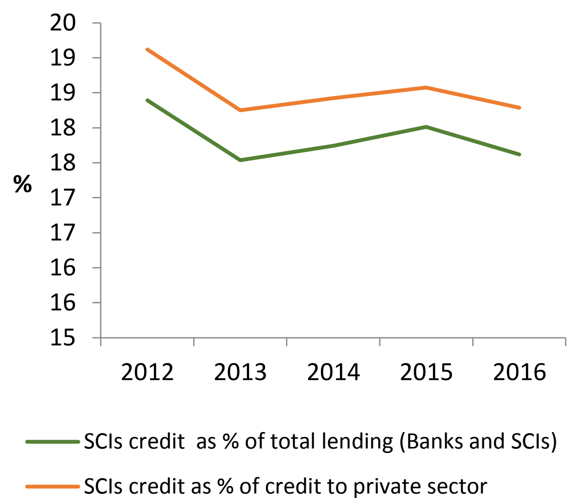


Asset classifications were dominated by Investments. The total amount invested by SCIs was equivalent to 49 percent of total assets in 2016. The loan portfolio share decreased from 47 percent in 2015 to 35 percent in 2016. The percentage share of monetary assets to total assets reached 14 percent by the end of 2016 (13 percent in 2015), an indication of sufficient liquidity in the SCIs books, particularly in the monetary assets, which can be made available for loans if necessary.

4.2.2 Credit Extended by SCIs

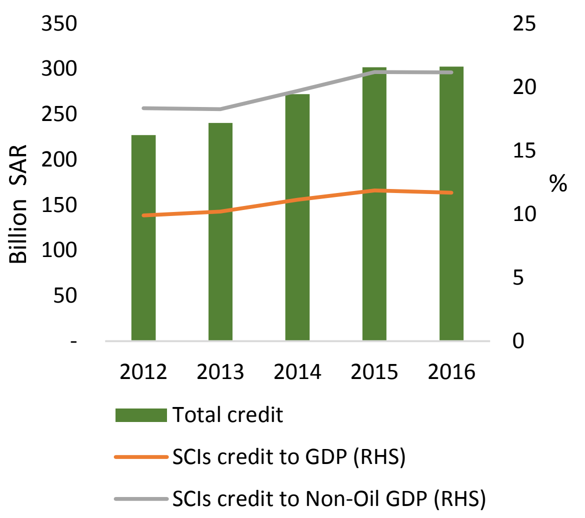
SCI credit growth in 2016 witnessed a major drop. Credit grew by only 0.2 percent for the year, a sharp decrease from the previous year's growth of 11 percent. In 2016, SCIs ratio of credit to the banks private lending slightly dropped to 18.3 percent compared to 18.6 percent in 2015, which is the equivalent of SAR 302 billion. Moreover, SCIs share of the total lending in the economy is 17.6 percent, a decreased from the 18 percent recorded during the previous year. **(Chart 4.2)**.

Chart 4.2: Pattern of SCIs Credit



The total credit provided by SCIs remained largely unchanged. In 2016, the total SCIs credit extended was equivalent to 11.67 and 21.17 percent of total GDP and non-oil GDP respectively, which is similar to the previous year. These ratios are above the average of the previous five years, which is 10.46 percent of total GDP and 19.5 percent of non-oil GDP **(Chart 4.3)**.

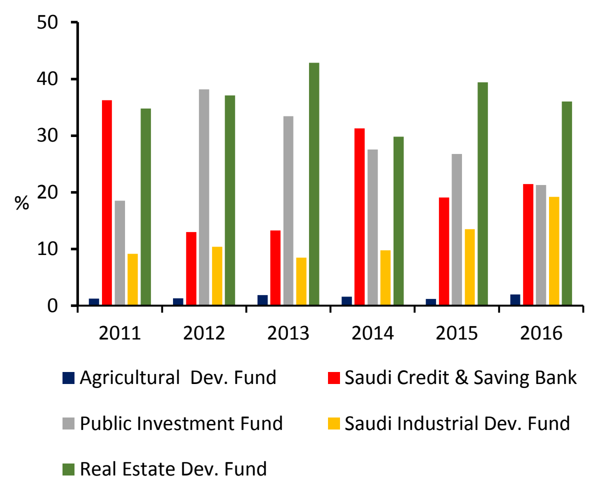
Chart 4.3: SCIs Outstanding Credit Relative to GDP and non-oil GDP



There are a number of reasons, which make the SCIs risks to the financial stability of the Saudi economy minimal. First**,** unlike banks SCIs are non-depositary institutions and are financed by the government, which makes this sector less exposed to liquidity risks. Second, since the government finances the SCIs, the contagion risks to the financial system are limited. Third, the SCIs pose no leverage implications on the banking sector because their balance sheets are funded entirely by the government. Therefore, it limits the impact of any deterioration in the SCIs' credit quality. Finally, the psychological effect, as the Saudi citizens and private sector businesses perceive the SCI's role as being bulwarks of certain sectors of the economy such as industrial, agriculture, and real estate. Moreover, most of the SCIs have been self-funded. Therefore, the vast majority of borrowers are aware of the necessity of "passing it forward" by repaying their loans.

Real estate loans account for the largest share of SCIs loans. The Real Estate Development Fund's outstanding loans claimed a share of 36 percent of total SCI loans in 2016. The share of loan by the Social Development Bank (formally Credit and Savings Bank) was 21.4 percent of the total. The Public Investment Fund share was 21.31 percent of the total. The share of loans distributed by the Saudi Industrial Development Fund was 19.2 percent of disbursed loans. Finally, the loans provided by the Agricultural Development Fund were only 2 percent of the disbursed loans **(Chart 4.4)**.

Chart 4.4: Percentage share of disbursed loans by SCI types



4.3 Non-Bank Financing Sector

4.3.1 Finance Companies Assets

The finance companies sector is relatively small but rapidly increasing. By the end of 2016, this sector's total assets were equivalent to 1.6 percent of the Saudi financial system's overall assets. There were four new finance companies licensed in 2016, increasing the number of operating companies to 34[12].

During 2016, total assets of this sector increased by 5 percent (SAR 38.9 billion) (Chart 4.5). Real estate and non-real estate assets accounted for 29 percent and 71 percent of total finance companies' assets, respectively. These assets were equivalent to 2 percent of GDP (1.5 percent in 2015), and 2.7 percent of the non-oil GDP in 2016 (2.6 percent in 2015). Moreover, the finance companies' assets accounted for 1.7 percent of total bank assets in 2016.

[12] The finance companies sector is divided into two segments based on the line of business, namely, real estate and non-real estate. There are six real estate and 28 non-real estate companies.

Chart 4.5: Total Assets of finance companies

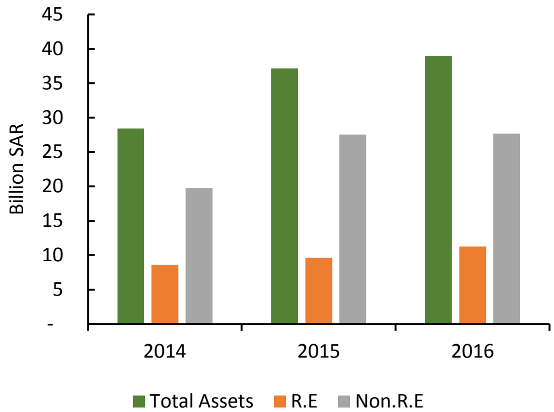
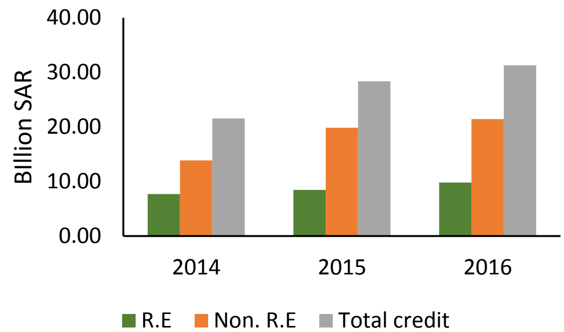


Chart 4.6: Credit by Business Line



4.3.2 Finance Companies Credit

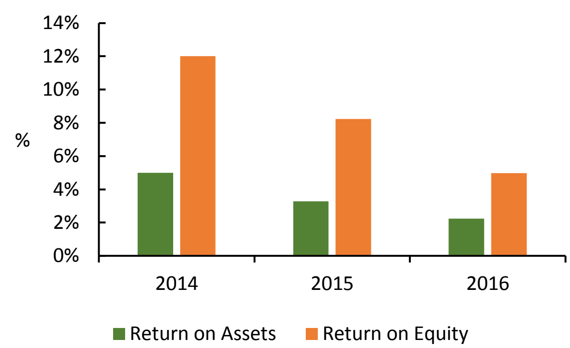
The total credit extended by this sector compared to the credit extended by the banking sector was small during 2016. The total credit (On-balance sheet credit) accounted for approximately 2.3 percent of the total banking sector credit[13]. However, the growth rate was high, with an increase of 10 percent, reaching SAR 31 billion in 2016. The real estate and non-real estate components grew by 16 and 8 percent respectively. Real estate and non- real estate respectively accounted for 31.4 percent, and 68.6 percent of total finance companies credit. It was equivalent to 1.2 percent of GDP, and 2.2 percent of the non-oil GDP in 2016. The finance companies' credit classification consists of real estate and non-real estate credit, with an average loan maturity of 15 years for real estate and 3-4 years for non-real estate. The amount of credit dedicated to real estate was one third of the total credit extended.

4.3.3 Finance companies Resilience

4.3.3.1 Profitability

Although total assets and credit have increased, profitability has continued to decline. Profits have decreased by 29 percent to SAR 870 million. Moreover, both ROE and ROA have been negatively impacted, respectively registering 5 and 2 percent, **(Chart 4.7)**. The downturn in profits resulted mainly from three factors; 1- the slowing economic growth, which impacted both asset quality and credit growth; 2- the higher operating expense which increased by 57 percent in 2016 reaching SAR 3.07 billion compared to SAR 1.9 billion in the previous year; and 3- the slowdown of revenue growth.

Chart 4.7: Profitability of finance companies



[13] If off-balance sheet credit is included, total FC credit would reach SAR 55 billion in 2016, growing by 5 percent compared to the year before.

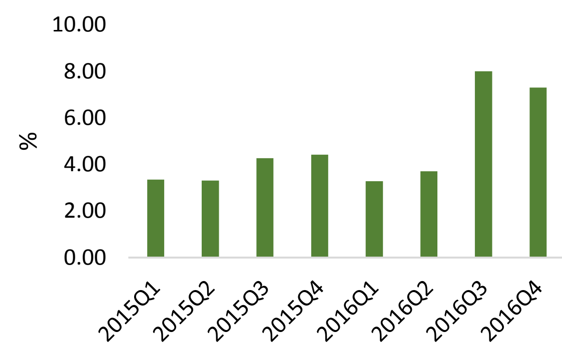
4.3.3.2 Leverage

The leverage ratio is stable and has not incurred a major change since last year. The leverage ratio for real estate companies' has reached a level of 2.12 percent in 2016, a minor decrease from 2015's level of 2.34 percent. Moreover, the non-real estate companies' leverage level has been stable at 1.67 percent slightly decreasing from 2015 ratio of 1.78 percent. These ratios are far below the maximum limits allowed by SAMA in their policy framework. Therefore, the finance companies are in a comfortable position in terms of being able to cope with high levels of nonperforming loans, if they occur.

4.3.4 Risk Outlook of Finance Companies

The credit extended in 2016 has grown by 10 percent. At the end of 2016, NPLs have increased from 4.4 percent in 2015 to 7.3 percent which was mainly due to a change in NPL calculation methodology enforced by SAMA. However, asset quality deterioration was more prominent in finance companies as opposed to banks due to the nature of their lending activities. Finance companies' credit portfolios have a sizeable proportion of credit extended to SMEs, at roughly 17 percent who were impacted at a greater magnitude than large corporates. However, while the NPL ratio is increasing, it is still considered to be relatively low compared to other countries. The high level of credit extended to the real estate sector may constitute another avenue of risk, as the credit to real-estate projects was 31.4 percent of the total credit in 2016. The high concentration could amplify finance companies' risk exposure.

Chart 4.8: NPL ratio of finance companies



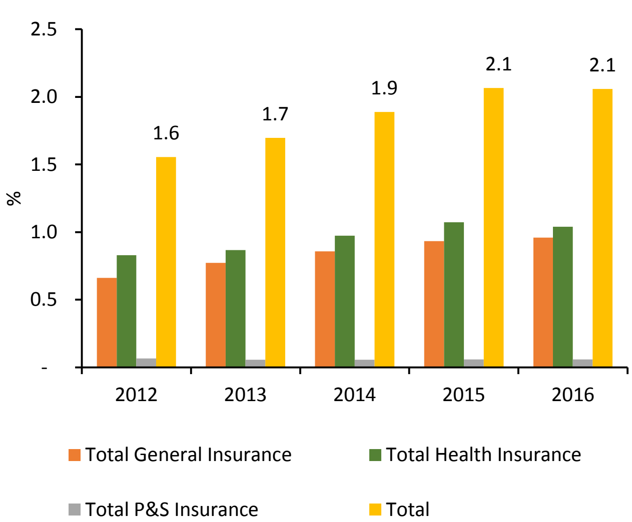
5. Insurance Sector: Performance, Coverage and Resilience

5.1 Overview

The structure of the insurance sector remained the same with little changes in 2016. In 2016, the sector remained comprised of 35 companies, 16 loss assessors and loss adjusters, and 8 insurance advisors. The number of actuaries has increased from 2 to 3 actuaries, the number of insurance brokers increased from 88 to 92, insurance agents increased from 91 to 95, and insurance claims settlement specialists (third-party administration) increased from 13 to 14. SAMA is the regulator for the sector, except for health insurance, which is shared between SAMA and the Council of Cooperative Health Insurance. Furthermore, since all insurance companies are publicly listed, the CMA is mandated to ensure that all insurance companies are compliant with the *Saudi Capital Market Law*.

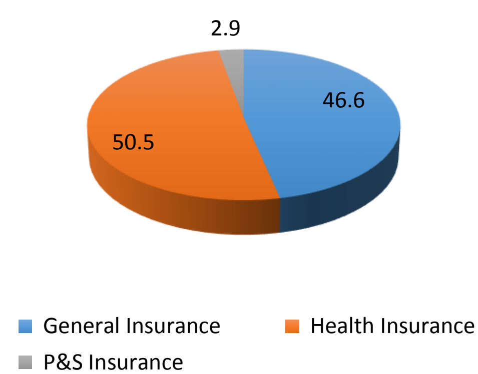
The Sector remains small as measured by its contribution to non-oil GDP and compared to the banking sector. The insurance penetration ratio as measured by the ratio of Gross Written Premium (GWP) to non-oil GDP, which indicates the contribution of the insurance market to non-oil output, averaged around 1.9 percent during 2012-16 and remained at 2.1 percent in 2016 as in previous year **(Chart 5.1)**. It represents a small component of the financial sector. While banks' total assets reached 126 percent of non-oil GDP in 2016, insurance total assets relative to non-oil GDP stood at only 2 percent during the same period.

Chart 5.1: Insurance Penetration (GWP as % of non-oil GDP)



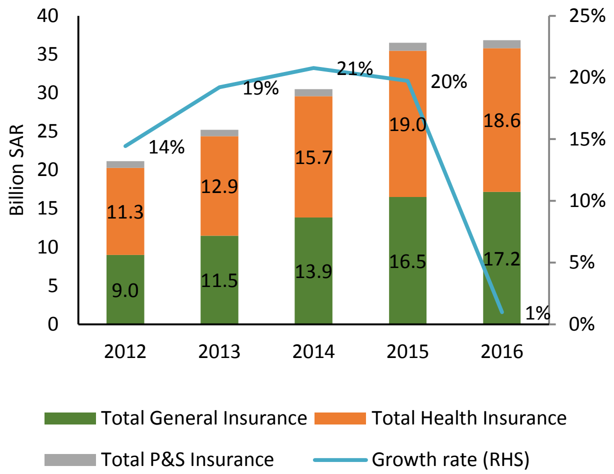
Insurance products and services are provided through three main insurance classes with each class containing several business lines. The first class is *General Insurance,* which includes business lines such as *Accidents and Liability, Motor, Property/Fire Insurance, Marine, Aviation, Energy, and Engineering*. The second is *Health Insurance*, and the third class is *Protection and Saving (P&S) Insurance*. Their respective shares of total insurance activities, in terms of Gross Written Premium (GWP) stood at 46.6 percent, 50.5 percent and 2.9 percent in 2016 **(Chart 5.2)**.

Chart 5.2: Market Share of Insurance Business Lines in 2016 (% of Total GWP)



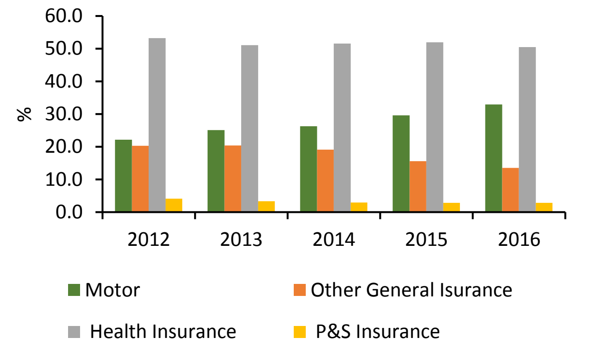
Although moderately, the Saudi Insurance market slightly contracted in 2016. The share capital of the entire insurance industry slightly decreased by 0.5 percent in 2016 to SAR 12.6 billion, compared to 23 percent increase in previous year. Moreover, the overall GWP growth rate slowed to 1 percent in 2016 from 20 percent in the previous year standing at SAR 36.85 billion in 2016 compared to SAR 36.49 billion in the previous year **(Chart 5.3)**. The slower growth in GWP compared to 2015 is mainly due to two reasons. First, the slowdown in economic activities which reduced demand for several insurance products. Second, the structural change in insurance pricing methodology in 2015, whereby actuarial pricing was reinforced by SAMA, which led to a one-off jump in the amount of GWP in 2015.

Chart 5. 3: Gross Written Premiums



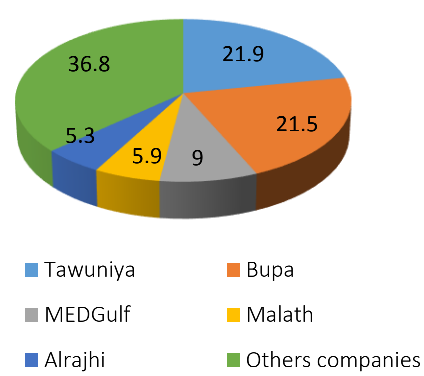
Health and motor insurance continued to dominate insurance activities as they accounted for 83.5 percent of total GWP. While the health insurance segment slightly decreased by 1.8 percent, the motor insurance significantly increase by 12.6 percent, which represents the highest increase among insurance lines **(Chart 5.4)**. This concentration of insurance activities is mainly due to the compulsory health and motor insurance policy whereby businesses are obliged to provide health (medical) insurance to their employees and drivers are required to hold, at least, a third-party motor insurance policy. Such concentration is expected to continue given initiatives to extend health insurance policies to employees in public sector entities such as the Ministry of Education, Ministry of Justice, and Saudi Airlines. In addition, the coverage of motor insurance policies is expected to increase given that around 50 percent of total motors in the kingdom are still not insured. Other insurance business lines, however, did not show a similar growth pattern in their respective GWPs in 2016. This indicates a need for further developments in these business lines (especially in the Protection and Savings line) to help reduce the concentration risk and allow for business diversification within the industry.

Chart 5.4: Market Share Growth Pattern of Different Insurance Lines



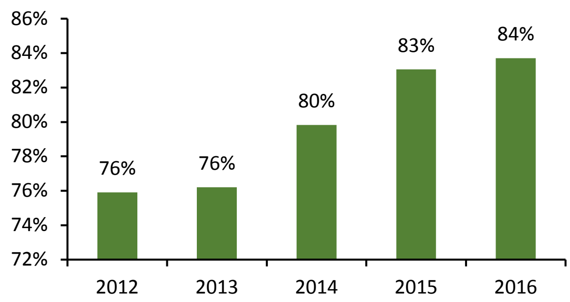
The insurance industry remains dominated by the top three players. The share of the top three companies' GWP market share slightly increased from 51.7 percent in 2015 to 52.1 percent **(Chart 5.5)**.

Chart 5.5 : Market Share of Top Insurance Companies as a Percentage of Total GWP in 2016



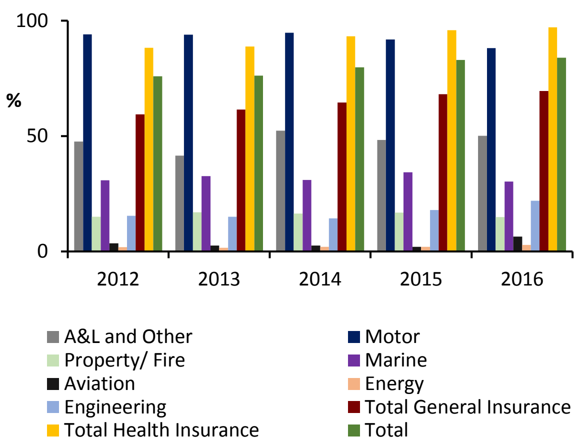
The current retention ratio of the Saudi insurance industry reflects less reliance on the reinsurance market. The retention ratio which indicates the percentage of GWP retained by the insurance companies increased to 84 percent in 2016 from 83 percent in 2015 **(Chart 5.6)**. This was indicative of less integration between the domestic and global insurance markets owing to low percentage of reinsurance contracts signed with international reinsurers. The low reliance on the reinsurance market indicates that most of the market risk is being assumed by the insurance companies.

Chart 5. 6 : Retention Ratio of Total Insurance Activities



Retention ratios of different insurance lines showed a wide divergence. Health and motor insurance businesses, which combined, accounted for 83.5 percent of the overall GWP in 2016, registered retention ratios of 97 percent and 88 percent, respectively. On the other hand, the retention ratios were significantly lower for the rest of insurance lines reaching a level as low as 2.8 percent for Energy insurance and 6.5 percent for Aviation (**Chart 5.7).**

Chart 5.7 : Retention Ratios by Business Line



5.2 Performance

Overall, the insurance market showed a significant profitability increase in 2016. Net results have increased from SAR 0.8 billion in 2015 to SAR 2.1 billion in 2016 recording a growth rate of around 160 percent. This increase in profitability was mostly led by the insurance activities as insurance underwriting results grew rapidly by 120 percent reaching SAR 2.1 billion in 2016 compared to SAR 0.96 Billion in 2015 **(Chart 5.8)**. Moreover, both ROE and ROA significantly increased, recording around 14.5 percent and 3.7 percent respectively during 2016 **(Chart 5.9)**.

Chart 5.8 : Insurance Underwriting, Investment and Net results

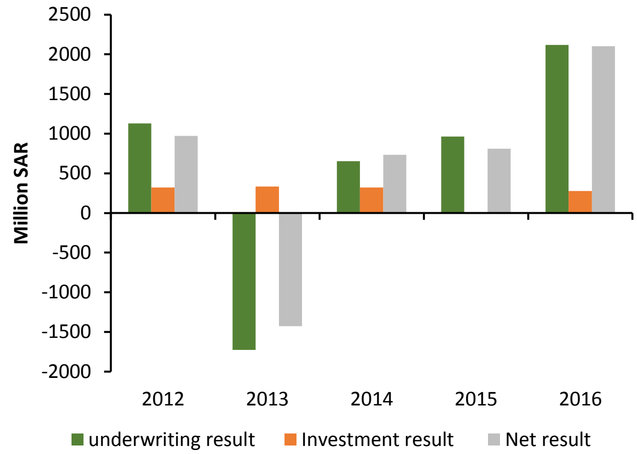
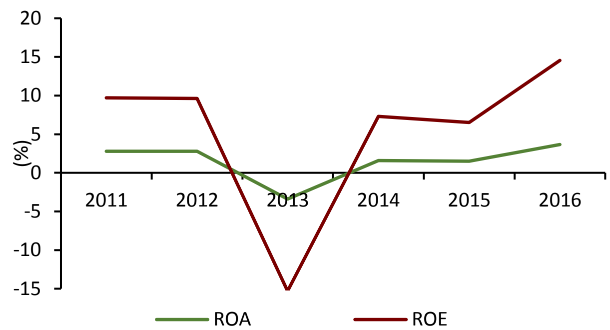


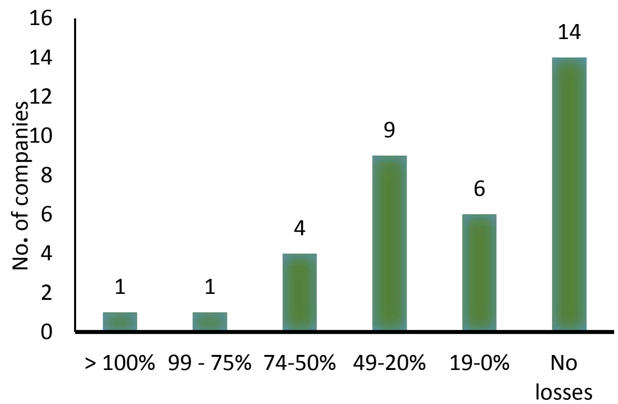
Chart 5. 9 : Returns on Assets and Equity for the insurance sector



However, there remains a wide divergence in the performance of individual insurance companies. The industry-wide profitability is mainly impacted by the performance of the top two companies whose net incomes constitute around 59.7 percent of the sector's profitability. If excluded, the net income across the remaining companies would drop to around SAR 0.85 Billion. Moreover, a large segment of insurance companies reported losses in 2016. Out of the 35 insurance companies, 6 companies reported net losses.

Sector-wide accumulated losses have slightly improved. In 2016, 21 out of 35 publicly listed insurance companies reported accumulated losses on their balance sheets, compared to 26 companies in the previous year. Moreover, one company was suspended from trading in the equity market (red-flagged) due to accumulated losses that exceeded 100 percent of its own capital, while another company remained tradable but amber-flagged indicating accumulated losses that exceeded 75 percent of its capital[14]. The rest of the 29 companies recorded accumulated losses less than 50 percent of their capital (**Chart 5.10, Box 5.1).**

Chart 5.10: Accumulated losses in the Insurance sector (% of Paid Capital)

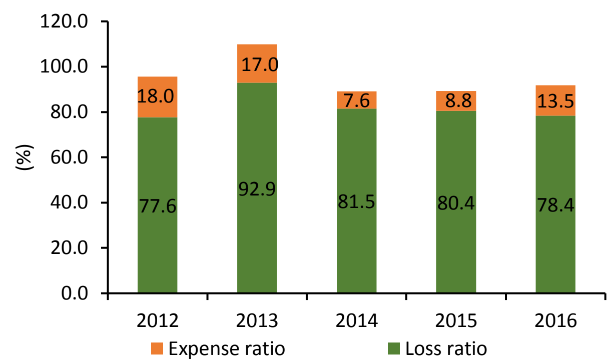


Investment activities have recovered from the last year loss and registered a profit in 2016. Investment results registered a profit of around SAR 278 million compared with a loss of SAR 9 Million in 2015 **(Chart 5.8)**. The reversal in investment income can be partially attributed to tightening liquidity during 2016, which increased the rate at which banks pay for deposits. The rising rates benefited insurance companies, as a large portion of their investments are deposits. Given the expected normalization of U.S monetary policy, we foresee some response in the local rates, which may benefit insurance companies.

A persistent, yet minimal, decrease in the industry-level loss ratio indicates an improvement in the efficiency of the insurance companies' underwriting activities. The average loss ratio, which is defined as the ratio of total net claims incurred to net earned premium, moderately decreased from 80 percent in 2015 to 78 percent in 2016. However, the ratio is considered relatively high indicating a room for further improvements in the underwriting standards in order to control for market risk and lower the net claims incurred (NCI) levels. The moderate increase in the loss ratio is further dampened by the large increase in the expense ratio of the Insurance Sector, which has increased to 13.3 percent (**Chart 5.11)**, highlighting that there remains room to optimize operational costs and further work done to decrease claims.

SAMA has introduced a new regulation concerning the motor insurance line that is meant to incentivize good behaviour by claim holders. Customers who maintain a clean record for more than a year, i.e. when no claims are filed, will qualify for a discount. Through this regulation, both insurers and customers will benefit from the regulation, through lower rates for customers and lower claims filed for insurers.

Chart 5.11: Patterns of Loss and Expense Ratios



The market remains highly concentrated, putting further pressure on the smaller players in the insurance sector. The market share being dominated by the top three insurance companies leaves little room for the smaller companies to compete, which may impact prices at the user-end level. It may prove beneficial if there were to be some consolidation among the smaller companies within the insurance sector, by combining synergies through Mergers and Acquisitions (M&As). The combination of the smaller companies will serve to introduce new companies that may be able to compete with the dominating players, and improve the profitability standing of the smaller players through shared synergies. Otherwise, it is likely that small companies that are unable to compete would continue accumulating losses, and end up running the risk of being subjected to the rules of Article 150 of the New Companies Law.

[14] However, as a result of the implementation of the new Companies Law, both companies were delisted in May 2017.

Box 5.1

Article 150

The Capital Market Authority along with the Ministry of Commerce and Investment have recently amended part of the New Companies Law that pertain to accumulated losses, specifically; Article 150 of the New Companies Law which took effect in April 2017. As per Article 150, companies with losses above 20 percent will be marked with the appropriate indicator that indicates the severity of the accumulated loss. In addition to the indicator, the company in question must publicly disclose the remedial plan to be taken to reduce the accumulated loss. When the accumulated loss is more than 50 percent the company must take the following actions:

- Knowledge of the accumulated losses reaching 50 percent from a company employee or an auditor must be immediately communicated to the Chairman of the Board of Directors, and the Chairman must inform the board.
- After the Board is informed, they must call for an extraordinary general assembly within 45 days after being informed of the accumulated loss.
- The extraordinary general assembly will vote to <u>either reduce or increase the capital, in order to bring the losses</u> below 50 percent.

The company will be delisted and dissolved if an extraordinary general assembly is not held. If an extraordinary general assembly meeting was held, the company will be delisted and dissolved if the meeting offers no resolution, or if the meeting results in a vote to increase capital, and fails to shore up the required number of subscriptions.

As of 2016 there were 10 listed companies that have accumulated losses of 50 percent and above, with 20 percent of the companies being in the Insurance Sector. For companies with losses between 20 percent and 50 percent, Insurance companies make up roughly 71 percent of companies in that bracket. This large representation of the Insurance sector in companies with accumulated losses indicates that there are deficiencies within the Insurance sector that need to be addressed. If losses are sustained this may lead to more companies exiting the market, concentrating insurance providers to a selected few companies which will reduce competitive pricing.

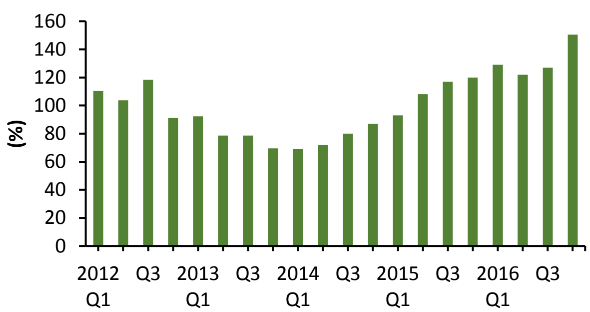
The impact of companies exiting the market, as an implication of Article 150, is debatable. On one hand, some argue that this may reduce competition and impact prices. Others, on the other hand, may argue that it would allow market forces to work and, more importantly, would enhance efficiency and the level of insurance services offered. As only those of economic added-value and efficient companies would remain in the industry.

5.3 Resilience

Policy measures continue to ensure the ability of the Insurance sector to withstand financial turbulences. SAMA continues to require Insurance companies to hold a specific amount of their paid-up capital as a statutory deposit, where this reserve is geared towards policyholders to meet unexpected claims, similar to the regulatory reserve requirement put in place on Banks to meet depositors' claims, in the case of unforeseen instability. SAMA's measures are further complimented by other Regulatory rules, such as the Saudi Company Law, that requires listed companies to allocate 20 percent of their annual profits into a reserve, until that amount equals paid up capital. The convergence of policy builds a strong foundation for the Insurance Sector to satisfy shareholders, and protect claimants. This can be noted in the large level of reserves the insurance sector currently holds, which stands at 4.4 percent of Total Liabilities

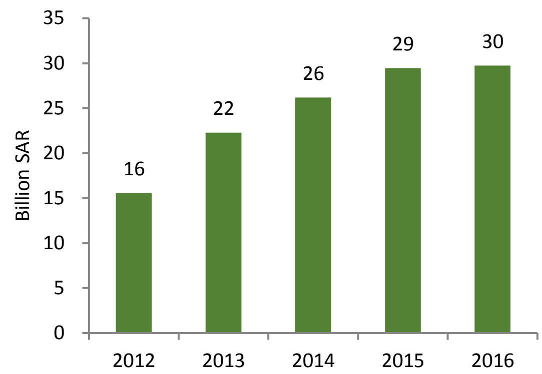
The industry-level solvency margins have stabilized at a level above the regulatory requirements reflecting the resilience of insurance industry. This was backed by a number of measures put in place by SAMA to help improve the performance of the sector which resulted in improved earnings during 2016. As a result, the industry's solvency margins improved exceeding the 100 percent requirement and reaching 150 percent by the end of 2016 **(Chart 5.12)**.

Chart 5.12 : Solvency Margins



Technical reserves continue to increase, which is in part due to SAMA's prudent provisioning guidelines. Technical reserves (funds set aside from profits to cover claims) reported a slight increase SAR 29.7 billion from SAR 29.4 billion in 2015, growing by 1 percent **(Chart 5.12)**. The sizeable amount accounts for more than 70 percent of the insurance sector's liabilities, and more than adequately covers total net claims at 126 percent.

Chart 5.13 : Technical Reserves



There was a slight increase in Total Net Claims for the year, but it has been growing at a slower rate. In 2016, the industry's total Net Claims Incurred (NCI) increased by around 10 percent, which remains far below the 2012-2015 average rate of around 24 percent. The level of NCI reached SAR 23.7 billion in 2016 from SAR 21.6 billion in 2015. Similar to the slowing growth trend witnessed with NCI, total Gross Claims Paid (GCP) grew by roughly 6 percent in 2016, which is lower than growth rate of 21 percent reported in the previous year. In terms of levels, GCP in 2016 increased to SAR 26 billion compared to SAR 24.5 billion in 2015. The underlying components of GCP shed some insight behind the trend, where GCP for total Protection and Savings insurance grew by approximately 8 percent in 2016, compared to a growth rate of 18 percent in 2015. The amounts of GCP for total Protection and Savings insurance increased to SAR 420 million in 2016, from SAR 390 million in 2015. This is in contrast with the pattern reported for GCP for Health insurance, which registered higher growth in 2016 at 11 percent growth compared to 13 percent in 2015. Finally, GCP for general insurance marginally increased to SAR 11.05 billion in 2016 from SAR 11.02 billion in 2015.

The insurance sector has a sizeable presence in the capital market in terms of market capitalization. The growing interlinkages in the Insurance sector emphasize the importance of policy coordination to contain vulnerabilities. Due to the nature of business by Insurance companies, they are expected to invest their assets in high quality investments. A large portion of their assets are held in banking deposits, where in 2016, the insurance sectors' deposits in financial institutions, mainly banks, represented more than 60 percent of total insurance investments **(Chart 5.14)**. Deposits increased from around SAR 14.2 billion to SAR 14.8 billion, which grew at a slightly lower rate during 2016 **(Chart 5.15)**. The large proportion of deposits that make-up the Insurance sector's investments is well above the 20 percent minimum that is placed by the Investment Standards issued by SAMA, which highlights limited investment opportunities for insurance companies. As for the capital market, the insurance sector makes a significant share of around 30 percent of market capitalization. Hence, while the impact of an individually stressed insurance company may not be significant, given their small individual sizes, systemic risk may arise if a group of companies is affected as their collective impact may be material. Therefore, policy coordination among relevant financial regulators is critical to contain such potential systemic risk. Moreover, the deepening of Saudi Arabia's capital market may introduce greater investment opportunities.

Chart 5.14: Share of Each Insurance Investments in 2016

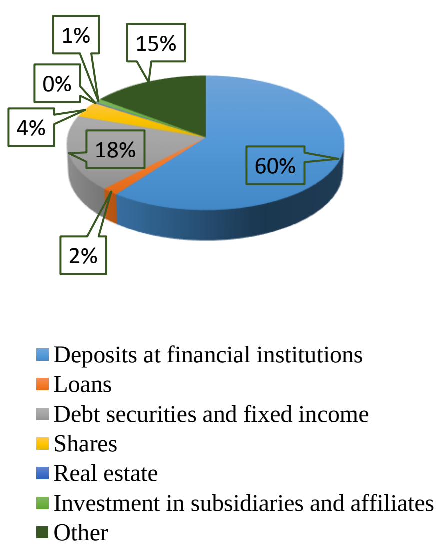
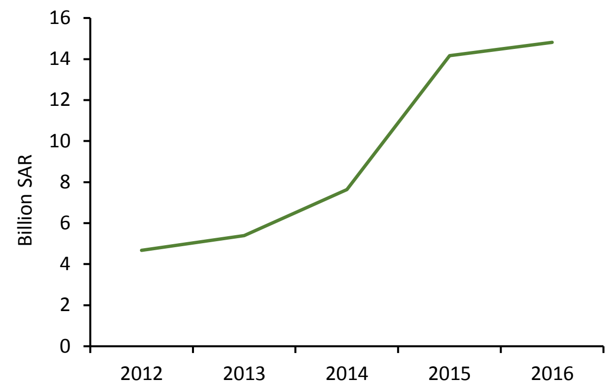


Chart 5.15: Deposits at Financial Institutions by the Insurance Sector



Box 5.2

Recent Developments in the Insurance Sector

As part of SAMA's continued efforts to further develop the insurance sector to increase the stability of Insurance companies, and safeguard consumer rights, a number of initiatives by way of SAMA have been taken by SAMA throughout 2016 and the beginning of 2017. The establishment of a new Customer Care Unit within SAMA and having insurance companies establish the same units. The customer care units will increase accountability within the insurance sector, demonstrating SAMA's commitment to the betterment of consumer satisfaction in the Insurance sector.

Further to the efforts of supporting insurance customers, SAMA has asked insurance companies to deposit insurance compensation directly into the consumer's bank accounts through SARIE. The use of SARIE is a testament to the on-going efforts of refining our payment systems and how it facilitates policy in a wide range of areas. SAMA has also worked in advancing the Sharia'ah Compliant nature of insurance companies, by asking the companies to reimburse policy holders when the company collected more premiums than the claims it has paid out.

SAMA has also made some progress in regards to the premiums charged to insurance customers by utilizing their driving record. Insurance companies are expected to consider the customer's motor history when it comes to assessing the pricing of the mandatory insurance premium and offer a discount (that could possibly reach 30 percent) based on the customer's driving behavior. The consideration of the customer's driving record will result in increased savings for the public, and incentivize good driving behavior. By incorporating customer behavior into the process of insurance assessment, insurance companies are expected to continue to differentiate pricing based on a more comprehensive risk profile for individual customers.

SAMA has also made clear the importance of new mandatory insurance products to be offered to the transportation sector. The products should cover insurance for trucks, rental vehicles, and others, and are expected to be offered by a large number of companies to encourage competition in the market.

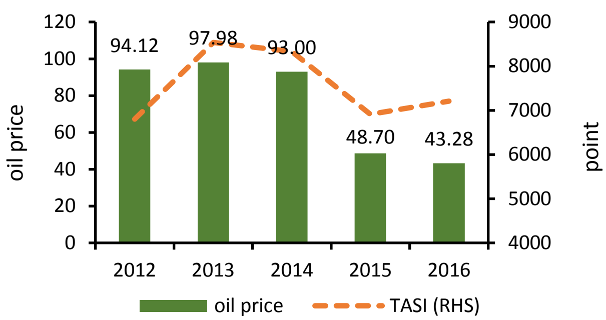
The efforts by SAMA will continue with the Insurance Vision 2022, which aims to build on the progress made in consumer protection, enhance human capital through skill development and increase the Saudization rate in the Insurance sector.

6. Capital Market Stability

6.1 Overview

The capital market is still sound and well-positioned despite many challenges facing the Saudi economy from the decline in oil revenues, and the short term predicted implications of the ambitious Saudi Vision 2030. The stock market has been influenced mainly by weakening demand across most economic activities.

Chart 6.1: TASI & Oil Prices Correlation

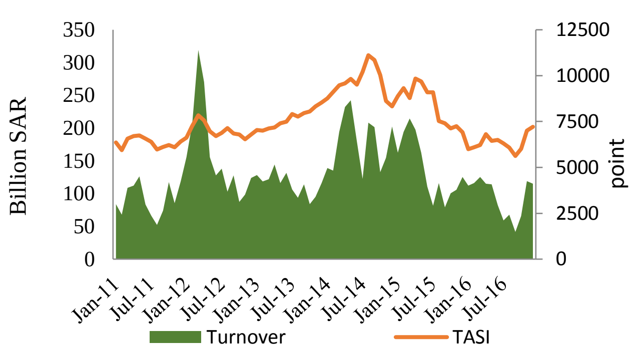


Sources: Bloomberg,

Oil price fluctuations added more pressure on market stability. Although oil prices retreated by 11.1% in 2016, the Saudi stock index went up 4.3 percent. The stock market index swang by more than 25 percent during the year (**Chart 6.1**).

The traded value witnessed sharp volatility influenced mainly by banking liquidity tightness that pushed the SAIBOR rate to 2.38 percent during 2016. Market sentiments also created a continuous pressure on the stock market traded value pushing it to decline by 31.3 percent year-on-year (**Chart 6.2**)

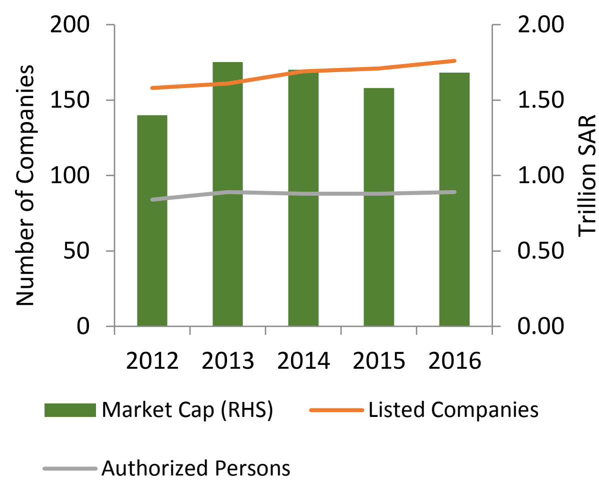
Chart 6.2: TASI & Turnover



Source: CMA

Overall, stock market capitalization improved in 2016 to SAR 1.7 trillion compared to SAR 1.6 trillion in 2015, representing 69.4 percent of GDP compared to 64.5 percent in 2015. Listed companies climbed to 176, and the number of Authorized Persons (brokerage companies, asset management and investment banking) increased to 89 (**Chart 6.3**).

Chart 6.3: Market Size



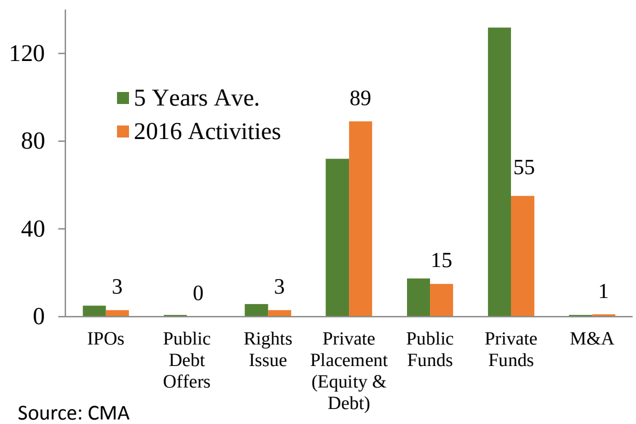
Source: CMA

In 2016, the Saudi capital market was exposed to liquidity and volatility risks, mainly due to a handful of macroeconomic factors which caused some stress on the capital market activities. Government reforms, on the other hand, have increased pressure on households' purchasing power and corporate profitability which, to some extent, reduced listed companies' resiliency. Along with the economic slowdown, APs' activities continued to decline. Also, the real estate sector's contraction has added extra pressure on their investment portfolios in the last two years.

6.2 Capital Market Activities

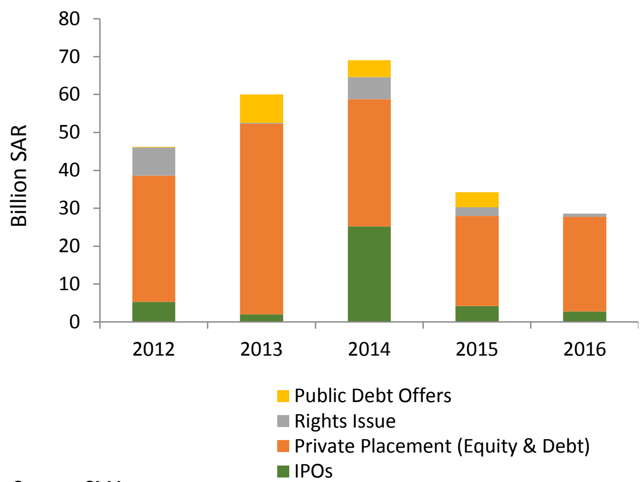
Economic slowdown and investment contraction pushed the capital market activities slightly down in 2016. Capital Market Authority (CMA) in 2016 approved 214 financing operations down by 6.6 percent compared to 2015. Likewise, total value of issuances reached SAR 28.6 billion, decreased by 12.5 percent as compared to last year, and 39.6 percent below the 5-year average (**Chart 6.4 & 6.5**).

Chart 6.4: Capital Market Activities (Number of Activities)



Source: CMA

Chart 6.5: Total Issuance Value



Source: CMA

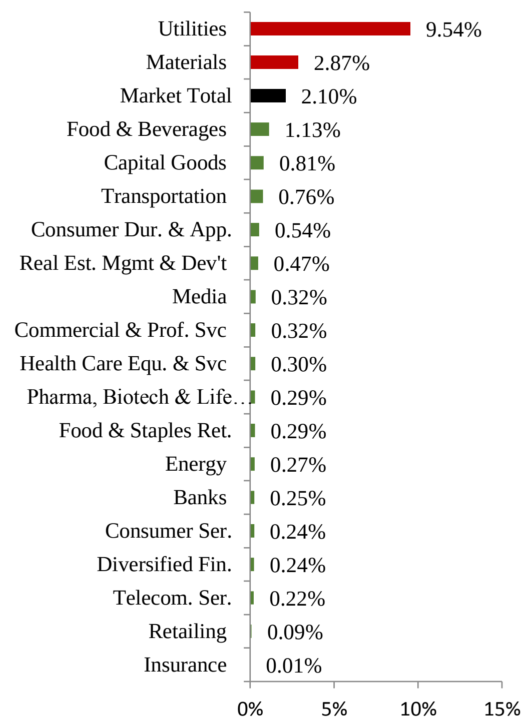
6.3 Market Legislation

Six New Implementing Regulations were issued in 2016 and nine amended. Moreover, four Implementing Regulations are under development. All of which aim to improve internal efficiency and effectiveness, strengthen corporate governance, promote disclosure and transparency, and improve internal as well as external risk management. The new "Companies Law" granted the CMA new roles and responsibilities to better stabilize the capital market. Furthermore, the CMA instructed all listed companies to convert into the International Financial Reporting Standards (IFRS) and disclose any material effects during the conversion process.

6.4 Government Policy Reform

Limited oil revenues overlapped with the expected short term impacts of government policy reforms have affected listed companies' profitability differently. According to reported data, the estimated government fuel, water and electricity tariffs reforms had relatively considerable financial and competitive impact on some sectors and listed companies. The reform on average has added 2.1 percent to the aggregate cost of listed companies in 2016 compared to a year earlier. The impact of the reform on sector bases showed increase in aggregate cost for the material sector by an average of 2.8 percent. However, the Utilities sector was the only sector that benefited from the reform as its revenue and profit in 2016 improved. A great part of the government reform cost is expected to be absorbed through companies' incentives toward more fuel efficiency use (**Chart 6.6**).

Chart 6.6: Cost Increases Due to Energy Reform



- Red indicates above the average cost.
- Green indicates below the avergae cost.

Source: CMA

6.5 Market Systematic Risks

In a downward direction, Tadawul All-Share Index (TASI) fluctuated during 2016 with an average

of 21.2 in terms of 90-day volatility, a bit lower than the previous year. That was mainly driven by macroeconomic factors related to decrease in government spending and weaknesses in the consumer purchasing power. Sector wise, the media sector was the most volatile sector during 2016 with around 49.95 90-day volatility.

Table (6.1) breaks down systematic risks to see how much of the company prices' change is consistent with the market return, presenting the sectors' Betas "β" combined with their relative ranks for 2016. It is remarkably seen that there is a sign of linking excessive systematic risks (β>1) to relatively small market cap companies. The heavy-weight sectors with relatively big market cap companies recorded low to moderate systematic risks, such as Banks, Materials and Telecommunication sectors.

Table 6.1: TASI Sectors' Systematic Risk

Sectors	2016	
	β	Rank
Energy	1.136	7
Materials	1.034	12
Capital Goods	1.275	4
Commercial & Professional Svc	0.973	`14
Transportation	1.266	5
Consumer Durables & Apparel	1.351	2
Consumer Services	1.513	1
Media	1.210	6
Retailing	1.099	9
Food & Staples Retailing	1.090	10
Food & Beverages	0.940	16
Health Care Equipment & Svc	1.102	8
Pharma, Biotech & Life Science	0.958	15
Banks	0.872	17
Diversified Financials	1.057	11
Insurance	1.287	3
Telecommunication Services	0.733	18
Utilities	0.726	19
REITs	-0.114	20
Real Estate Manag. & Dev.	1.006	13

6.6 Market Liquidity

The short term expected impacts of the government reforms as well as liquidity contraction in the economy as a whole had direct effects on market liquidity. The traded value was impacted during 2016 compared to 2015. Stock market turnover retreated by 30%. Margin lending declined 50.4% year-on-year to reach SAR 6.8 billion, representing less than 1% of stock market capitalization. Fortunately, there were signs of improvement in the fourth quarter. (**Chart 6.7**)

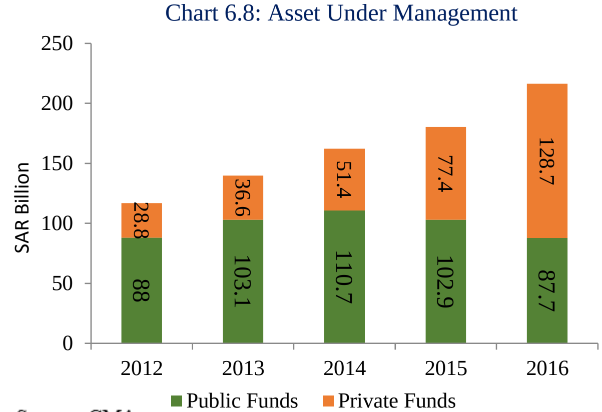
Table 6.7 Margin Lending Value

Source: CMA

On the other hand, traded value of Sukuk & bonds market almost did not change in 2016 compared to 2015. The Saudi Vision 2030 is expected to have a significant role in activating the Sukuk & bonds market. Thus, the CMA has an ambitious strategic plan in line with the Saudi Vision 2030 to develop the debt market to play a substantial role to support the local economy.

Assets under management of investment funds industry posted a significant increase in 2016 to reach SAR 215.9 billion up 19.8% from 2015 data. Total assets under management of private investment funds rose 66.2% to SAR 128.7 billion in 2016. (**Chart 6.8**)

Chart 6.8: Asset Under Management



Source: CMA

6.7 Shadow Banking

Worldwide shadow banking risk has been evolving since the last decade to be one of the significant sources of financial risks. As the capital market regulator, the

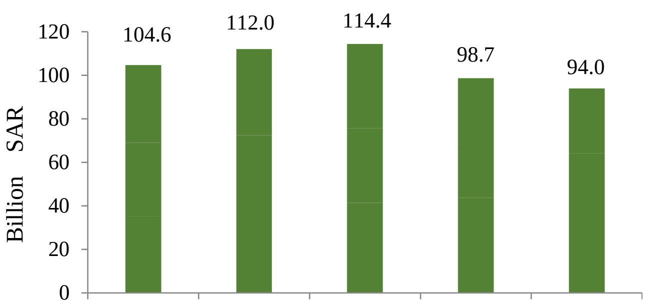
CMA supervises and monitors all capital market activities including all shadow banking sources. Money market funds, the major shadow banking component decreased to SAR57.5 billion and Real Estate funds edged down slightly to SAR 3.6 billion in 2016.

6.8 Market Resilience

6.8.1 Corporate Profitability

The overall profitability of the Saudi stock market decreased by 4.1% to SAR 94 billion in 2016. Most sectors participated in the decline. The decrease was mainly driven by Banks and Financial Service sector and Agriculture & Food Industry sector as well as Cement sector by SAR 2.4, 2.2 and 1.4 billion respectively. Return on assets declined marginally to 2.5 compared to 2.6 percent in 2015, while return on equity went down to 8.9 in 2016 compared to 9.5 percent in 2015. (**Chart 6.9**).

Chart 6.9: Stock Market Net Income



Source: CMA

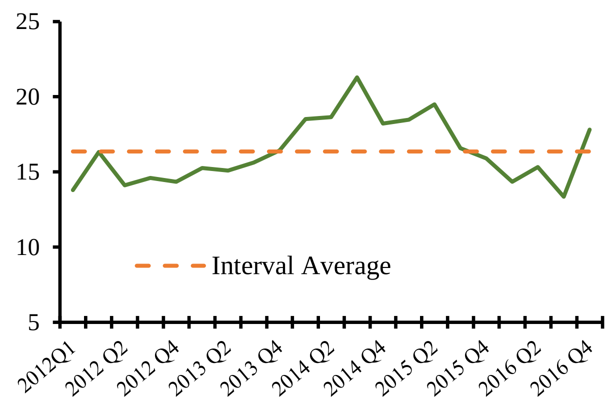
In the last two years, the corporate profit reduction had diluted companies' ability to build safety nets. The new Companies Law, which has been applied since the 2nd of May 2016, has led the CMA to amend the rules governing distressed listed companies to reflect, *inter alia*, the new 50 percent threshold for losses. Accordingly listed companies with accumulated losses reaching 20 percent or more of their share capital by the end of the year totaled 26, of which 13 companies were in the Insurance Sector. The CMA has expedited the relevant processes to assist those companies to comply with the requirements of corrective actions of capital increase/decrease deadlines as prescribed by the new Companies Law in order to avoid delisting and winding up.

Table 6.2: Distressed Listed Companies

	No. of Companies
Companies with Accumulated Losses of 20% or more, but Less than 35%	8
Companies with Accumulated Losses of 35% or more, but Less than 50%	4
Companies with Accumulated Losses of 50%(+)	14

TASI's Price-Earnings (P/E) ratio in 2016 stood below the normal P/E range. However, it rose in the fourth quarter of 2016 to 17.8 by end of 2016, a bit higher than 5 year-average, as market sentiment and liquidity improved. (**Chart 6.10**)

Chart 6.10: TASI's P/E Ratio

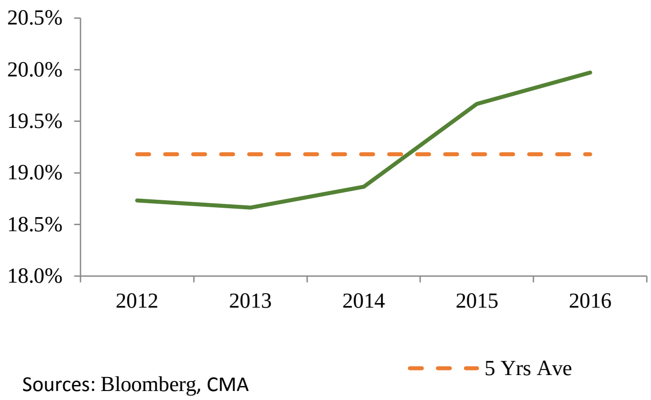


Source: CMA

6.8.2 Corporate Leverage

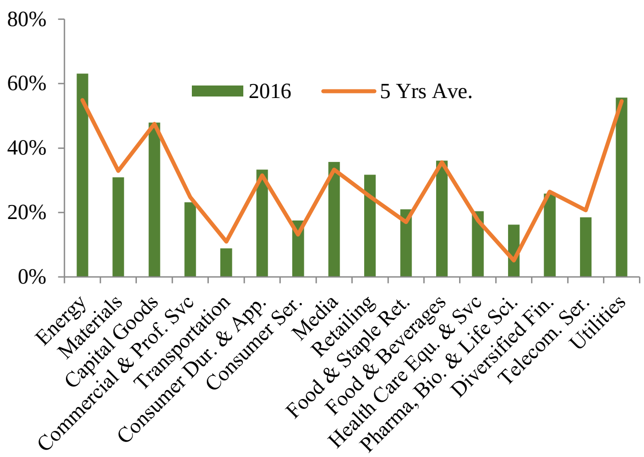
Corporate leverage increased but remains modest. The overall debt-to-assets ratio increased by 1.5 percent to 20 percent, which is almost around the 5-year average. However, most sectors showed negative year-to-year change in their total debt to total assets ratio. Total debt to total assets ratio of Biotech & Life Science Sector doubled in 2016 reaching 16.2 percent; however it rose from very low base. At companies level, most listed companies in various sectors remained less dependent on borrowing. **(Chart 6.11**) and **(Chart 6.12**).

Chart 6.11: Total Debt to Total Assets (%)



Sources: Bloomberg, CMA

Chart 6.12: Total Debt /Total Assets by sectors



Source: CMA

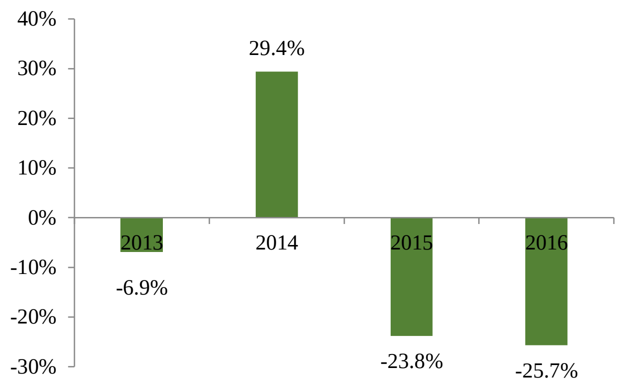
Cash to short term debt for the market improved in 2016 to 167.4 percent compared to 177.9 percent (the 5 years average). Current ratio declined slightly to 1.25 in 2016 compared to 1.39 in 2015. Companies in general hold adequate liquidity and limited level of leveraging. They continued to be well-placed against recent economic developments and government reforms.

6.9 Authorized Persons

6.9.1 Profitability:

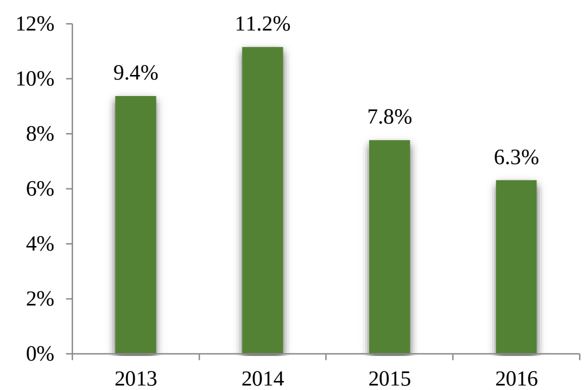
Although, APs' net income continued to decline for the second consecutive year, the industry by large still has strong capital adequacy level. The total annual profit for the APs declined to SAR 1.7 billion in 2016 compared to SAR 2.3 billion in 2015. This drop is attributed to the fall in revenues, especially from dealing and managing activities which shrank by 26.2 percent and 16.2 percent consecutively. Return on assets of APs was 6.3 percent at the end of 2016 compared to 7.8 percent in 2015 (**Chart 6.13 & 6.14**).

Chart 6.13: Net Income Growth (%)



Sourcr: CMA

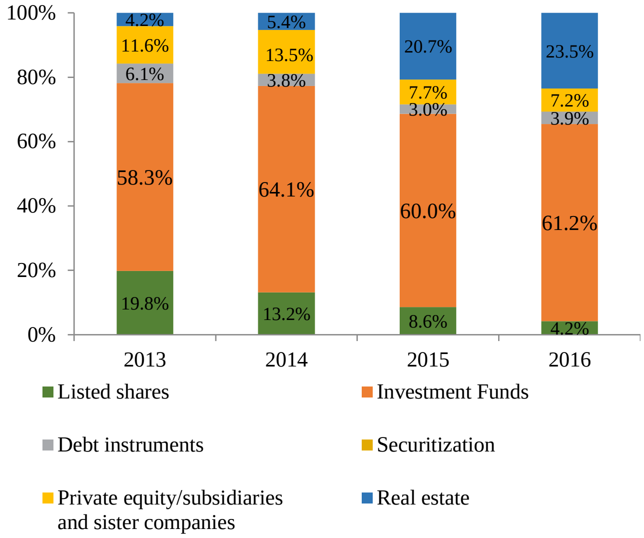
Chart 6.14: Return on Assets (%)



Source: CMA

Composition of the APs' portfolio investments shows a reasonable level of diversification in asset classes with a tendency in the last two years towards more exposure to the real state sector. However, still significant allocation of capital was channelled to investment funds, reaching 61.2 percent of total investments in 2016. Real estate ranks second and accounts for 23.5 percent in 2016 (**Chart 6.15**).

Chart 6.15: Breakdown of APs Investments in Various Asset Classes



Source: CMA

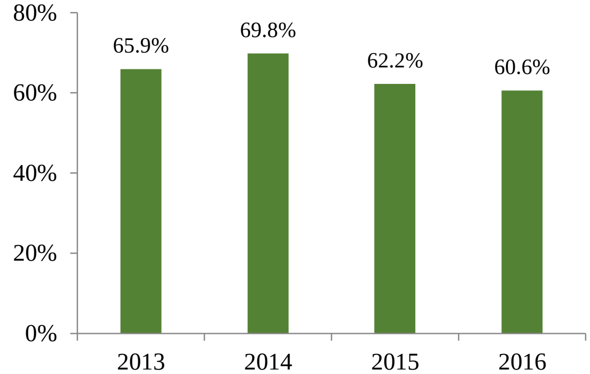
6.9.2 Capital Adequacy

In accordance with the Prudential Rules, CMA plays an active role in supervising the APs' capital adequacy requirements in order to maintain strength and soundness of the sector. Recent data revealed that the APs who are licensed to conduct dealing, managing and custody activities maintained an adequate level of capital at the end of 2016 as the capital to risk-weighted assets ratio reached 27.4 percent compared with 26 percent at the end of 2015.

6.9.3 Liquidity

Attaining adequate liquidity level shields financial institutions from financial shocks and provide sufficient safety liquidity margin to overcome the shocks. CMA requires APs to meet a set of minimum liquidity requirements which assist in identifying, measuring and managing liquidity risks of the APs. Liquidity within the APs sector remained high in 2016 with liquid-assets to total-assets ratio at 60.6 percent, slightly lower than 62.2 percent in 2015(**Chart 6.16**).

Chart 6.16: Liquid Assets to Total Assets

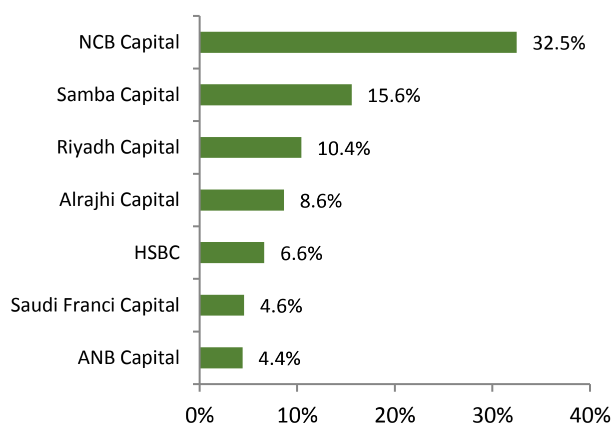


Source: CMA

6.9.4 Concentration and distribution

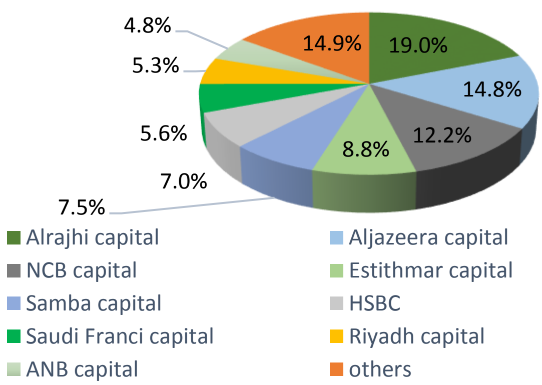
The phenomenon of the concentrated market for both brokerage and assets management pursues its existence. As of 2016, 82.7% of the public funds' assets were managed by only 7 APs out of 64 APs licensed as fund managers (**Chart 6.17**). In-depth analysis of the data shows concentration not only at the level of APs, but also at the level of funds, as one single fund had the lion's share, amounting to 18.8% of total public funds' assets. Moreover, only 2.2% of the publicly traded funds held more than 46% of total assets' under management. With respect to equity trading, the brokerage business shows relatively less concentration compared to the public funds' industry, with 85 percent of trading value executed through 9 APs out of 33 APs licensed to deal as agents **(Chart 6.18).**

Chart 6.17: Distribution of Public funds' assets by APs



Source: CMA

Chart 6.18: Distribution of trading value by APs



Source: CMA

6.10 Operational Risks in the Saudi Capital Market

Recent technological developments highlighted operational risk as a critical factor in scoping the overall-risk register of the capital market. Underweighting these factors might lead to market interference which might be developed to higher-graded types of risks. The key parts of the capital market operational risk are captured in Tadawul's ERM "Enterprise Risk Management", and they are closely monitored and managed. Tadawul has established an escalation matrix based on its risk appetite. Within this matrix, thresholds have been distributed into three different levels: Acceptance level (Actual level of risk appetite indicator ≤ 85 percent of the pre-defined threshold), near breach level (Actual level of risk appetite indicator from 86 to 99 percent of the pre-defined threshold) and Breached (Actual level of risk appetite indicator ≥ 100 percent of the pre-defined threshold). As per 2016, Tadawul's reports showed no successful incident of information security breaches, neither for sensitive-critical information nor for sensitive non-critical information. Likewise, no instance has been reported for default in cash or security settlement (**Table 6.3**). The anticipated-new settlement period (T+2) has no significant impact on the market liquidity as it does not affect the purchasing power, and it is in line with the international norms which is one of the requirements of the MSCI inclusion.

Table 6.3: Key Risk Indicators and their Thresholds

Key Risk Indicator (KRI)	Thresholds	Number of Instances
Security Breaches for Sensitive Critical Information	0	0
Security Breaches for Sensitive non-Critical Information	≤ 2	0
Default in Cash or Securities Settlement	0	0

Source: Tadawul, CMA

Saudi Vision 2030 represents a comprehensive economic reform package for Saudi Arabia. The new visionary global model has a set of programs and subsidy reforms that might have some predicted short-to-medium term undesirable impacts on different economic activities. The first wave of reforms had its effects already seen during 2016 while the new impact will arise as the second round of government reforms are declared to the public in the summer of 2017. The reforms could curb private sector ability to expand as households' disposable income shrink and corporate profitability's growth slowdown. The stress testing results of the APs, despite the current economic conditions, are expected to withstand any negative outcomes in the future as a result of the current economic reforms or any other unexpected economic developments.

Box 6.1
APs Stress Testing

To further enhance its risk assessment for the APs, CMA has developed a stress testing framework for the sector in the beginning of 2017. CMA has conducted a top-down stress testing procedure on an annual basis of the APs. The main objective of the test is to assess the resilience of the APs to adverse but plausible economic shocks based on common scenarios. The results will provide insights which would enable CMA to re-evaluate its macro-prudential policy instruments as well as assist the review of the internal ICAAP submissions from the APs.

The exercise is conducted for all APs licensed to conduct dealing, managing and/or custody (67 APs as at 31 December 2016) against the major risks they are exposed to. The exercise is carried out using the readily available supervisory data from the monthly prudential returns of the APs for 2016.

Two stress testing scenarios based on CMA's forecasting model are applied; moderate and severe. The scenarios assume shocks in several variables including the Tadawul All Share Index (TASI) level, Saudi stock exchange (Tadawul) trading volume, valuation of investment funds, valuation of the private equity and real estate companies, as well as the operational expenditures.

The following are the main stress testing results:

- The moderate scenario assumes the drop in TASI level by 8 percent, and the drop in trading volume by 4 percent. The private equity and real estate valuation is assumed to drop by 10 percent. The valuation for the money market funds is expected to drop by 2 percent. Equity funds and private funds are assumed to drop by 7.2 and 5 percent respectively.
- The severe scenario assumes the drop in TASI level by 22 percent and the drop in trading volume by 7 percent. The private equity and real estate valuation is assumed to drop by 19 percent. The valuation for the money market funds is expected to drop by 7 percent. Equity funds and private funds are assumed to drop by 20 and 14 percent respectively.
- The stress testing results show that the APs sector in Saudi Arabia are well capitalized to continue supporting the growth of the Saudi economy even under the stressed environment as they can easily withstand the various economic shocks.
- Under the moderate scenario, the capital surplus decreases by 8.3 percent while the projected capital adequacy ratio will decrease but remains high, well above a 14 percent threshold, at 26.2 percent.
- Under the severe scenario, the results show that the capital surplus decreases by 20.0 percent, while the projected capital adequacy ratio will decrease to 24.7 percent.

7. Financial Market Infrastructure, Payment Systems, and Cyber Security

7.1 Overview

Payment systems in Saudi Arabia have undergone significant changes over the past years. SAMA with the cooperation and support of the commercial banks, has taken, and continues to take, the lead in the development and day-to-day management of a modern national payments infrastructure to support the economic development of the Kingdom. This cooperative approach to developing an efficient and shared payments infrastructure drawing upon the best available practices and technologies from advanced banking systems has brought considerable benefits to the banks and their customers.

SAMA is currently undertaking a number of initiatives that will provide all stakeholders a comprehensive range of options to meet all their payment needs. The initiatives build on the existing electronic funds transfer infrastructure and utilizes internet technology in providing a sound, expandable and efficient payment system infrastructure.

Furthermore, with the increased dependencies on technology including mobile & web platforms for business operations, there is a significant increase in the cyber security threats. Further with the ever changing threat landscape in the region, SAMA understands the criticality of cyber security risks and its impact on business operation. As a result, SAMA has taken multiple initiatives to identify and manage such cyber security risks.

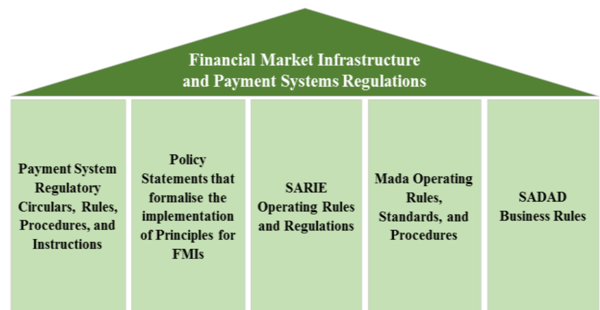
7.1.1 Legal and Regulatory Framework

SAMA is the sole owner and operator for Payment Systems (PSs) and Trade Repository (TR) and carries out its regulatory, supervisory and oversight in accordance with its powers pursuant to:

- The Charter of the Saudi Arabian Monetary Agency (SAMA) issued by Royal Decree No 23 dated 23/5/1377H (1957); and
- The Banking Control Law issued by Royal Decree No M/5 dated 22/2/1386H (11/06/1966)**.**The Banking Control Law of 1966 gives SAMA broad powers to regulate and supervise Saudi banks and to safeguard the banking system. These include enabling powers to issue rules and guidelines to banks and to lay down conditions for certain actions and transactions.

Consequently, SAMA can issue rules, regulations and guidelines for any type of banking transaction or product, including payments products, services and systems. It is by judicious exercise of these regulatory powers that SAMA has led the development of the payment systems in the Kingdom with the full cooperation of the banks. SAMA is fully empowered to collect and retain data from institutions licensed and supervised by SAMA, in line with Principles for Financial Market Infrastructures (PFMI) best practices. Work is also ongoing to enhance the legal framework's explicit recognition and enforcement of settlement finality rules and netting arrangements in the unlikely event of participant default.

Figure 7.1: Key Payment systems' rules



7.1.2 Payment Systems Oversight

SAMA considers oversight of the Saudi Arabian Payment System one of its core functions, closely related to and contributing towards overall financial and monetary stability. Specifically, the role of SAMA is to preserve the safety and efficiency of the individual clearing and settlement systems and the safety and efficiency of the payments and settlement system as a whole.

In accordance with the 2005 oversight report of the Committee on Payment and Settlement Systems (CPSS) and the Committee on Payments and Market Infrastructures and International Organization of Securities Commissions (CPMI-IOSCO) Principles for Financial Market Infrastructures (PFMI) 2012, SAMA has enhanced its governance via the establishment of a new Payment System Oversight Policy Unit and the establishment of SAMA's FMIs Governance & Oversight Framework. In this regard and as a recent oversight activity in October 2016, a self-assessment of SAMA's compliance with the PFMI standards for Payment Systems and Trade Repository in the Kingdom of Saudi Arabia has been conducted. The scope of the self-assessment included the following systemically important FMIs:

- The Saudi Arabian Riyal Interbank Express (SARIE), Real Time Gross Settlement (RTGS) System.
- Mada, previously known as the Saudi Payments Network (SPAN), providing for interbank ATM services and Electronic Funds Transfer at Point of Sale (EFTPOS) transactions.
- The SADAD Payment System (SADAD) the Electronic bill presentment and payment (EBPP) system.

Moreover, the external CPMI Implementation Monitoring Standing Group (IMSG) of PFMIs assessment are covering three levels. The Level 1 assessment covers the legal and regulatory changes necessary for all types of FMIs. Levels 2 and 3 assessments have been more focused on CCPs (Central Counterparty) up to this point and Trade Repositories (TRs).

As a result significant progress has been made to date, in the adoption and fulfillment of the PFMI. In addition to that, SAMA current position on the assessed levels is as follow :

- Level 1 for Principles and Responsibilities: SAMA received a 4 rating in June 2016.
- Level 2 / Level 3 for Responsibilities: SAMA is assessed to observe all responsibilities for Payment Systems (PSs) and TRs.

7.1.3 Integrated Payment system strategy

The Integrated Payment Strategy (IPS) aims to increase electronic transitions to reach 30 percent of all transactions by 2021. The IPS is mainly a revised version of the payment strategy developed back in 2009. It supports the payment infrastructure for digital transactions in Saudi Arabia.

The strategy has been defined to address the needs of all users, including consumers, SMEs, Corporate and Government, for issuing and receiving payments across multiple digital payment systems and channels. It delivers enhancements in terms of technology and expansion, product development, marketing, and innovation. This will ensure an accelerated roll-out of new products, as well as addressing the opportunities for the payment system through the growth of new forms of commerce and new emerging participants in the payment eco-system. The Strategy includes the following major pillars and objectives:

- Improving the payment infrastructure by building a real time Automated Clearing House to enable retail payment transactions to move at the speed of the internet and to modernize and future proof the national payments infrastructure.
- Increasing e-commerce and mobile capabilities through new online payment options and mobile payment applications.
- Promoting innovation and support start-up through innovation center, concept hubs, and FinTech hubs.
- Extending existing services to SMEs through SADAD accounts and Biller Base expansion initiatives of SADAD, and addressing payments through invoicing hub.
- Enhancing Customer experience through contactless payments and digital capabilities.

Figure 7.2: The Integrated Payment Strategy Pillars

7.2 Recent Developments of Saudi Arabia's payment systems

7.2.1 SARIE System

The SARIE system is the base of the Saudi payments infrastructure. There are now 24 participants in the SARIE system including SAMA and 23 commercial banks. SARIE is integrated with other payment systems operating in Saudi Arabia to facilitate payment settlements. It is also used to settle equity and bond transactions traded on the Stock Exchange (Tadawul).

The SARIE Operating Rules and Regulations (ORR) govern the use and operation of the central system. Most banks have automated payment processing systems linked to these gateways. The system is available on working days and ensures payment finality and irrevocability. SARIE combines the functionality of both a high-value and a high-volume system and handles both credit transfers and direct debits. The system facilitates interbank and customer payments as well as direct debits, and facilitates the execution of domestic transfers arising from the receipt of international funds transfer instructions.

7.2.2 MADA

The growth in POS terminals, number of Mada transactions, and number of issued Mada cards is indicative of mounting preference for cashless payments. The total number of issued MADA cards was 26.54 million in 2016, up by 27.8 percent from the average of the last five years **(Chart 7.1).** POS terminals installations grew by around 51,000 to a total of SAR 276,167 at the end of 2016, up by 23 percent from 2015 and 64.3 percent from the average of the last five years **(Chart 7.2).**The number of POS transactions continued to grow by around 22 percent reaching 543 million transactions in 2016 compared to 2015, and by 44 percent from the average of the last five years **(Chart 7.3)**

Chart 7.1: Number of Issued MADA Cards

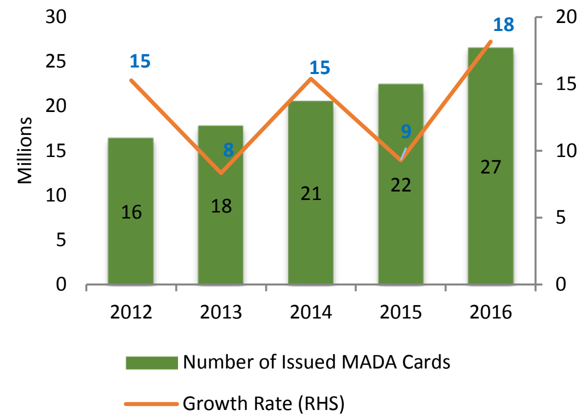


Chart 7.2: Number of POS Terminals

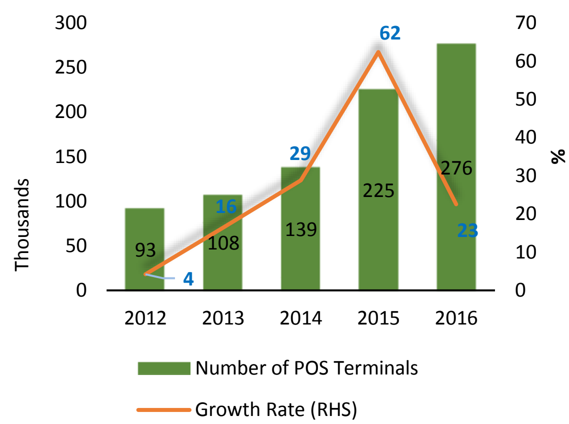
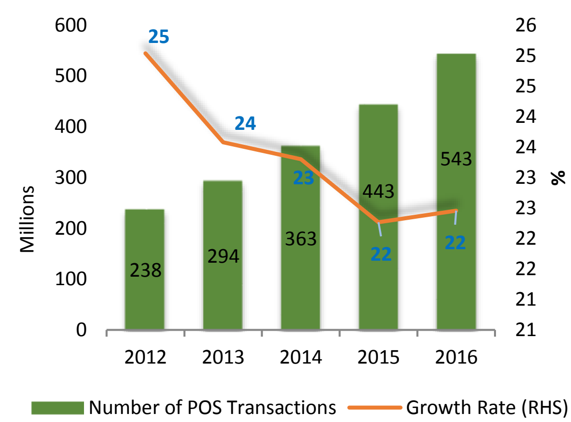
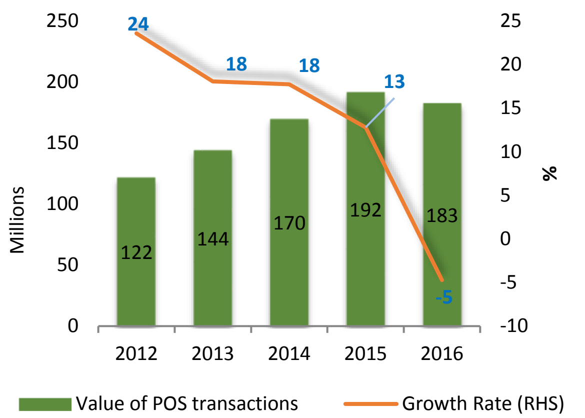


Chart 7.3: Number of POS Transactions



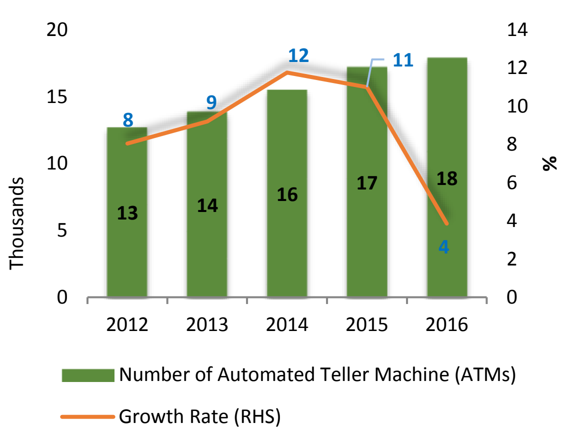
The drop in the total amount of POS transaction may be an implication of slower economic growth. The value of total POS transactions dropped by around 4.7 percent in 2016, registering an amount of SAR 182.7 billion **(Chart 7.4).**This may be due to due to a cautious consumption behavior amid various fiscal consolidation measures and structural reforms impacting disposable income.

Chart 7.4: Total Value of POS transactions



The increase in the number of automated teller machines (ATMs) indicates improved geographical coverage of banking services. The number of ATMs increased to 17,887 in 2016, up 15.8 percent from the average of the last five years**(Chart 7.5).**This will support the shift towards a cashless payment system as ATMs are used for many services (e.g., SADA payments), other than cash withdrawals.

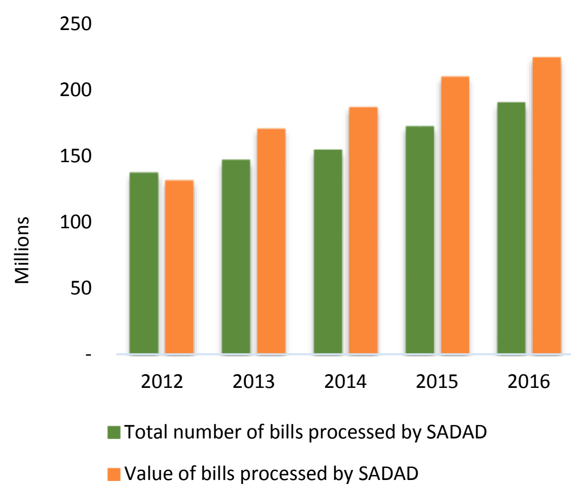
Chart 7.5: Number of Automated Teller Machine (ATMs)



7.2.3 SADAD

One of the most important goals of SADAD is to create an environment where billers compete to serve their clients by providing convenient electronic payment solutions .SADAD aims to connect all banks and billers via electronic channels where bills can be viewed and paid all around the Kingdom to ushering in a less-cash society. In 2016, the total number of bills processed by SADAD was 190.1 million with a value of SAR 224.6 billion.

Chart 7.6: Total number and value of bills processed



7.3 Payment Systems Governance, Risk and Compliance (GRC)

SAMA has put in place a formal framework for Governance, Risk, and Compliance (GRC). GRC is defined as a function composed of multiple of roles working together in a common framework, collaboration and architecture to bring a view across governance, risk, and compliance activities throughout SAMA's Payment System stakeholders. The governance framework contains:

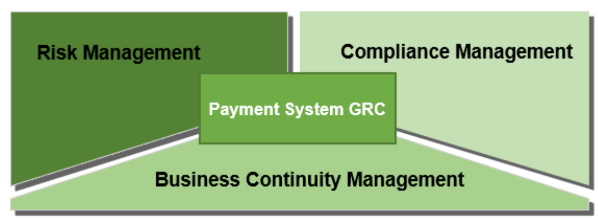
- Executive Risk Management Committee: Ensures strategic oversight, alignment of Governance Risk and Compliance practice to corporate objectives, oversees the proper functioning and performance of the GRC practice, ultimately accountable for risk and compliance activities efficiency.
- Governance, Risk, and Compliance Unit: Defines, maintains and communicates the GRC framework to the Payment systems' stakeholders, builds risk and compliance management awareness and knowledge throughout Payment systems' stakeholders, drives and coordinates risk and compliance, owns and maintains all GRC assets, provides analyses and reporting over risk exposures and treatment plans implementation and effectiveness, reviews the performance of GRC processes and implements actions to increase effectiveness;
- Business Units: Use their business knowledge for the identification and assessment of risks and compliance requirements, definition of risk treatment plans including risk control requirements, actively follow-up treatment activities and report efficiency, provide updates regarding any changes in risk and compliance environment, such as significant business events or new initiatives.

Figure 7.3: Payment System GRC contribution Framework

The GRC framework was established as a federate function, with responsibilities being shared across all Saudi Arabia payment systems' functions and hierarchical levels, the key components of the GRC function are:

- Risk Management: A coordinated set of activities and methods used to provide a systematic approach to identify, prioritize and manage key opportunities and threats to company's strategic objectives (framework based on ISO 31000)
- Business Continuity Management: A holistic management process used to ensure that operations continue and that products and services are delivered at predefined levels, that brands and value-creating activities are protected, and that the reputations and interests of key stakeholders are safeguarded whenever disruptive incidents occur (framework based on ISO 22301)
- Compliance Management: A framework that aims to ensure services, processes and systems comply with legal requirements, industry mandates, enterprise policies and standards (framework based on ISO 19600)

Figure 7.4: Payment System GRC Framework



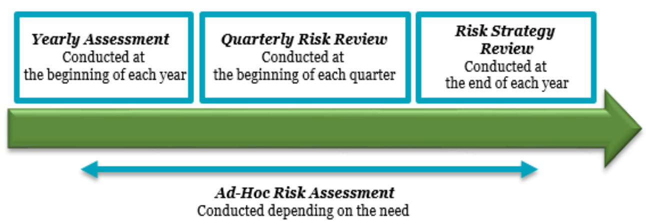
SAMA is working continuously on improving and updating the principles and requirements of the accountability and responsibility approach of the Key parties based on the laws, regulations and the international standards. All of that, in order first, to enhance the efficiency and effectiveness, and second to ensure strategic oversight alignment of Governance Risk and Compliance practice to corporate objectives and oversee the proper functioning and performance of the GRC practice.

7.3.1 Risk Management Activities and Results

Risk Management is one of the GRC functions that SAMA is using to identify, assess, and manage all the risks that may affect the Saudi Arabian Payment Systems. It is responsible for identifying internal and external factors, driving events and trends which may either be a threat that have a negative impact on the payment systems' operations and services, or opportunity that can enhance the payment systems' performance and growth. The scope of analysis includes the full spectrum of risk, such as strategic, market, operational and compliance. For this purpose, a Risk Management calendar has been put in place which includes:

- Risk Strategy Review
- Yearly Assessment
- Quarterly Risk Review:
- Ad-Hoc Risk Assessment

Figure 7.5: Risk Management Calendar



A complete risk assessment was conducted across all business and support functions over a period of three months during 2016. The assessment revealed no major nor systemic risks in the payment systems implying a high efficiency and security levels. Moreover, risk mitigation plans were implemented in order to further increase the security and efficiency of the Saudi Arabia payment systems. A by-product of the assessment was that it allowed SAMA to identify more than a hundred risk elements to be monitored as business as usual to ensure that system-wide risk remains low. These risks were grouped into 10 risk portfolios and more than 65 treatment programs were defined and put into practice to mitigate risk exposures.

7.3.2 Business Continuity Management Activities and Results

SAMA has implemented several BCM initiatives that helped minimize the impact of any system-wide disruptions. Business Continuity Management (BCM) ensures that payment systems in Saudi Arabia are more resilient to potential threats and allow them to resume or continue operations under adverse or abnormal conditions. This is accomplished by implementing the appropriate resilience strategies to reduce the likelihood and impact of a threat and the development of plans to respond and recover from threats that cannot be controlled or mitigated.

- **Business Continuity Strategy:** Comprehensive Business Continuity Strategy was developed to enable the recovery of critical services, systems and facilities within the agreed Recovery Time Objectives. The Strategy is developed across multiple phases, including primary and secondary for critical systems, as well as business alternate site and disaster recovery site for organization to relocate following a disaster.
- **Comprehensive Business Continuity Risk Assessment:** The assessments were conducted and helped to identify more than 100 critical business functions and 55 business continuity risks.
- **Business Continuity Plans:** During 2016, 27 business continuity plans have been developed. In addition, 25 tabletop exercises and tests have been conducted to all business and technical teams.
- **BCM Training and Awareness:** To increase BCM knowledge, multiple awareness sessions were organized and delivered to all staff. Business Continuity training sessions were organized for Recovery Teams so that they are prepared to respond during a disaster. Exercises and tests have been done to all plans to validate the effectiveness of the BCM Plans, document errors and identify inconsistencies for correction and improvements.

7.3.3 Compliance Management

Compliance Management carries the responsibility of identifying, prioritizing and managing Payment System key compliance requirements. These requirements include laws, regulations and industry mandates, as well as international standards, internal policies and contractual commitments in consideration of the operating environment.

In 2016, Compliance requirements identification assessment was conducted and 49 high level compliance requirements were identified during 2016. Based on these requirements, 10 Compliance Programs were created, 4 Programs were assessed, and 5 non-compliance risks were identified and treated (work is still in progress, with the remaining Compliance Programs to be created are planned to be completed by the end of 2017). Through the Compliance Management, critical Compliance requirements were identified and managed, such as:

- Principles for Financial Market Infrastructures (PFMI): Set of principles that contain new international standards for payment, clearing and settlement systems, including central counterparties.
- Payment Card Industry Data Security Standard (PCIDSS): Proprietary information security standards for organizations that process branded credit cards from the major card schemes including Visa, MasterCard, American Express, Discover, and JCB.
- ISO 27001 Information Security Management Systems: Systematic approach to managing sensitive company information so that it remains secure. It includes people, processes and IT systems.
- ISO 9001 Quality Management: Provides guidance and tools for companies and organizations who want to ensure that their products and services consistently meet customer's requirements, and that quality is consistently improved.
- ISO 20000 Service Management System: Specifies requirements for the service provider to plan, establish, implement, operate, monitor, review, maintain and improve a Service Management System. The requirements include the design, transition, delivery and improvement of services to fulfill agreed service requirements.

Chart 7.7: Payment System Compliance Requirements

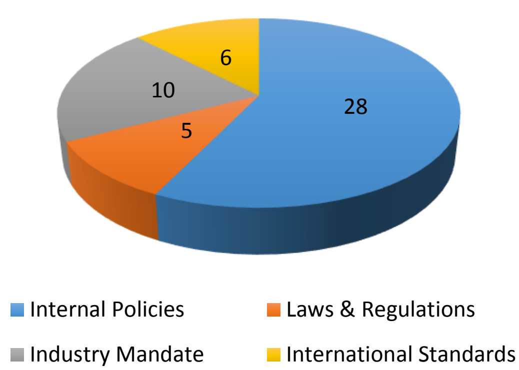


Figure 7.6: Payment System Compliance Principles

7.4 Recent initiatives

SAMA is striving to create efficient, integrated and secure payment systems that grows up to the best international systems to facilitate banking services and streamline the banking sector's contribution in a way that assists it in efficiently playing its role in the domestic, economic system

7.4.1 Saudi Payment Network- Mada

The Mada Five-Year Plan (2016-2021) has a specific objectives and programs. The objective is to enhance:

- Growth in Cards & PoS Terminals;
- Operations & Infrastructure;
- Marketing & Communications; and
- Innovation – Product & Service Development.

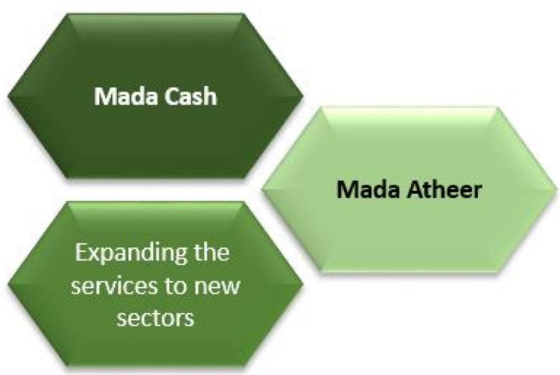
As a result of start implementing the plan several services and products were offered in 2016, some of which are:

- Providing "Mada cash" service that allows the customer to get cash when buying from the stores. The purpose of this service is to reduce reliance on ATMs for cash and providing another channel of having cash. It also helps to reduce the risks and costs of cash management at the participating stores. Furthermore, banks are currently working with the stores to activate this feature throughout the local market.
- Launching the Mada Atheer service for remote payment via Near Field Communications (NFC), this has a new payment feature (paying through passing the card on PoS screen for low-value operations (SAR 100 or less) and with a cumulative total value of SAR 300 without the need for a pass code). The service is characterized by fast, easy, immediate and

secure processing of low-value operations with no need for taking the card from its holder. Mada Atheer is considered a competitive marketing advantage for the retailer where it gives its customers more options for payments and it reduces cash available with the retailer.

One of the most important achievements of Mada is expanding the use of the service and connecting other new sectors in the local market to it, such as the fuel station sector, money transfer centers, fast food restaurants and others. Prepaid cards (payroll cards and student cards) have also been expanding where they amounted to 5.9 million cards that may make use of Made PoS services for the purpose of enhancing electronic payment in purchases rather than cash.

Figure 7.7: Mada Recent services and products



Those services and products have contributed to the expansion of PoS terminals to more than 276 thousand in 2016 increasing by 23.4 percent from 2015. Also, Saudi Payments Network has continued mobilizing its resources during 2016 to make use of state-of-the art technologies to help in providing fast, accurate and secure e-banking services. Mada services have succeeded in reducing the period of a PoS operation by 33 percent over the preceding year where it only now takes 4.3 seconds.

7.4.2 SADAD initiatives

The pilot version of the "SADAD Electronic Portfolio" app has been launched on smart phones, which allows immediate transfer of amounts between the users' SADAD accounts. The work is underway to launch the official version of the app in 2017.

The security level has developed and upgraded to protect payment systems from hacking operations. The security check of payment systems has been developed to operate 24 hours a day. Moreover, monitoring systems have been installed and developed in mid-2016 to monitor SADAD operations in the banking sector.

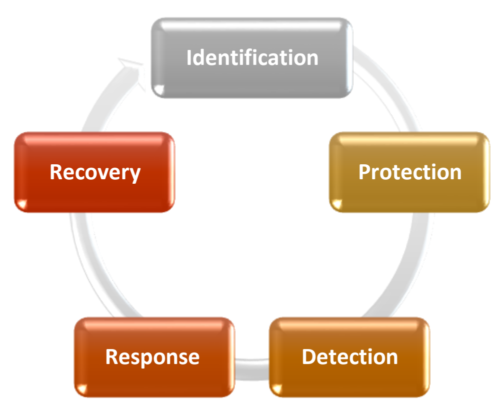
7.5 Cyber resilience in financial market infrastructure

With the increased dependencies on technology including mobile & web platforms for business operations, there is a significant increase in the cyber security threats. Further with the ever changing threat landscape in the region, SAMA understands the criticality of cyber security risks and its impact on business operation. SAMA conducted a comprehensive cyber security assessment for banks to assess the effectiveness of cyber security controls and maturity. This assessment includes readiness of business resilience plans in case of incidents. The assessment allowed SAMA to have an up-to-date national (banking) risk assessment of cyber-security risk. In addition, analysis have been performed to identify key common issues, key common strengths and recommendations were shared with the required entities.

7.5.1 Cyber Security Strategy for Banking

In collaboration with the banking sector, SAMA has recently developed Cyber Security Strategy of Banking Sector. The Strategy was formulated with the intention of driving continuous improvement of cyber security, thereby ensuring that SAMA and Saudi banking sector is well prepared in the five cyber security domains: "identification, protection, detection, response and recovery" as the below diagram shows:

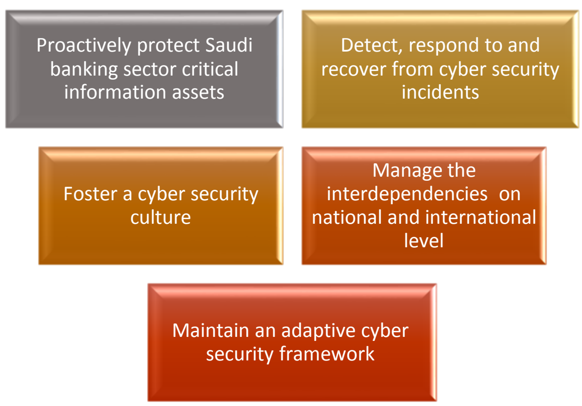
Figure 7.8: Cyber Security Domains



The Strategy recognizes the increased pace at which cyber threats are evolving, as well as the changing technology and business landscape. This places a premium on agility and flexibility in cyber security, underpinned by comprehensive intelligence on cyber threats, and effective collaboration between members of the Saudi banking sector. The cyber security strategy aims to achieve the following objectives:

- Proactively protect Saudi banking sector critical information assets such as payment systems.
- Detect, respond to and recover from cyber security incidents and imminent threats through timely information sharing, collaboration and action.
- Foster a cyber security culture that promotes safe use of information assets and services amongst all stakeholders in the banking sector.
- Understand and manage the interdependencies on national and international level, and work with national authorities and international organizations to reduce the risks to the Saudi banking sector.
- Maintain an adaptive cyber security framework taking into consideration regulatory requirements, new technologies and emerging cyber security threats.

Figure 7.9: Cyber Security strategic objectives



7.5.2 Cyber Security Framework and Governance

SAMA has reviewed all previous regulations regarding cyber security and established a comprehensive "Cyber Security Framework". The framework is meant to enable the banking sector to effectively identify and address risks related to cyber security .

The Cyber Security framework creates a common approach for addressing cyber security within the Banking Sector. It also helps achieving an appropriate maturity level of cyber security control within the banking sector and ensuring that cyber security risks are properly managed throughout the Banking Sector **(Figure 11)**.

Figure 7.10: Cyber security framework principles

As a way of improving information/knowledge sharing, as well as enhancing sector-wide cooperation against IT risks and cyber-attacks, SAMA established the Banking Committee for Information Security. Information and knowledge sharing is a key enabler to an effective approach against cyber threats. The committee is mandated to discuss major cyber incidents and challenges in the industry, exchange views regarding their systemic impact, and propose recommendation. It is also convenes as needed to discuss any urgent information security matters

SAMA has successfully implemented a framework to counter and resolve cyber security incidents in the system. As per the framework, banks immediately share with SAMA critical cyber incidents/attempts and this is in turn communicated to all parties. The effectiveness of such communication was measured and tested on many occasions including the "Shamoon" malware attack that targeted different organizations in KSA in which none of the banks was affected.

7.5.3 Business Continuity Framework

SAMA reviewed all previous regulations regarding Business Continuity and published a comprehensive "Business Continuity Framework". This is to achieve an appropriate maturity level of the ability of regulated entities to provide the critical services in case of disaster cyber scenarios