STRATEGY FOR GLOBAL ASSET AND LIABILITY MANAGEMENT* 2018-2021

* This document includes the Annual Program for Indebtedness and Debt Management referred to in Article 14° of Law N° 28563, specifying its policies, objectives and goals, from a long-term perspective, which is compatible with the fiscal targets and debt sustainability. The approval of this document was recommended by the Asset and Liability Management Committee created by the Sixth Final Complementary Provision of Law N° 30116 as the authority that establishes the actions and guidelines to be taken in order to manage the financial assets and liabilities that are part of the Public Treasury.

"Year of the Good Service to the Citizen"

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Message from the Minister of Economy and Finance

Over the last 15 years, the gross public debt ratio of the Non-Financial Public Sector, as a percentage of GDP, has declined from 48.7% in 2003 to 24.1% in 2017, [1] a level that the main credit rating agencies have considered to be low. Similarly, its composition in local and foreign currency varied from 20/80 in 2003 to 62/38 in 2017. As a matter of fact, since the implementation of the Strategy for Global Asset and Liability Management in 2013, the process of solarization of the public debt grew from 54.0% to 62.2% at end-August 2017. The same effect is seen in the amount of sovereign bonds that has been issued which increased from 6.4% of GDP in December 2013 to 12.6% in October 2017.

These achievements are the result of the Ministry of Economy and Finance's strong commitment to fiscal discipline and prudent macroeconomics. Because of this, Peru is maintaining its credit rating and a stable outlook amid the uncertainty in the region while our peers were experiencing a decline of their sovereign risk profile.

The year 2017 has been relatively complicated for the Peruvian economy due to domestic shocks like El Niño and the suspension of important infrastructure projects with Brazilian companies resulting in an annual growth of 2.3% in the first half, leading the growth in the region compared to our peers (Mexico, Colombia, Chile and Brazil). During the second half, domestic-demand-related sectors like construction and manufacturing are recovering. Thus, a growth rate of 3.2% is expected in the second half of the year, led by higher public expenditure on the reconstruction process and a higher external demand in terms of more competitive prices for exports.

Precisely, the world economy is, at present, more dynamic, having a positive impact on the international prices of our main export commodities, which is highly favorable for the Central Government current fiscal revenues. According to the 2018-2021 Multiannual Macroeconomic Framework, revenues have decreased from a peak of 22.8% of GDP in 2012 to 18.3% in 2017 and they are expected to grow to 20.2% in 2021.

In 2018, the IMF expects that the world economy will gain momentum compared to 2017; in particular, the LAC zone, which would grow from 1.2% in 2017 to 1.9% in 2018. Because of the world economy growth towards 2018, higher interest rates and more adjusted financial conditions in the advanced economies are expected. The MEF[2] expects that the Peruvian economy will accelerate greatly to 4.0% on average for the 2018-2021 period due to the reconstruction plan, higher public investment, private investment reactivation, higher commodities prices and a more dynamic external demand.

In relation to the global interest rates, the central banks of US, Canada and England have started to raise their monetary policy rates despite the uncertainty over the timing the European Central Bank will increase its benchmark rate. With respect to the interest rates for loans, the Strategy has been also suggesting a reduction of the amount of public

[1] September 2017
[2] MMF, August 2017

debt at floating rates in favor of debt at fixed rate. At the end of 2016, floating rate loans attained 15 of the total, while at the end of 2017 they decreased to 7.5%.

Finally, the Strategy for Global Asset and Liability Management will continue making the use of the financial resources more efficiently through its fungibility, promoting the minimal cost of liabilities and maximizing the Public Treasury asset returns. The strategy will aim to improve the predictability of funding needs, to develop an optimal balance-sheet structure considering liquidity and cost, to develop the public debt securities market by keeping a suitable debt profile and to maintain a funding plan for the management of updated stress and contingency scenarios.

CONTENT

LIST OF ACCRONYMS AND ABBREVIATIONS IN ENGLISH

ATM	Average Term to Maturity
ATR	Average Term to Reprice
AVRG	Average
CHG	Change
EPI	Export Price Index
ETF	Exchange Traded-Fund
EUR	Euro
FC	Foreign Currency
FSF	Fiscal Stabilization Fund
G7	Germany, Canada, United States, France, Italy, Japan and the UK
GDP	Gross Domestic Product
GG	General Government
IDB	International Development Bank
IMF	International Monetary Fund
JICA	Japan International Cooperation Agency
LA6	Brazil, Chile, Colombia, Mexico, Peru and Uruguay
LAC	The Latin America and the Caribbean
LCY	Local currency
LMO	Liability Management Operation
MMF	Multiannual Macroeconomic Framework
MTDS	Medium-term Debt Strategy
NFPS	Non-Financial Public Sector
OECD	Organization for Economic Cooperation and Development
PEN	Peruvian sol
PPP	Private Public Partnership
RER	Real Exchange Rate
SDF	Sovereign Debt Fund
SeR	Service at Risk
USD	US dollar
WB	World Bank
YTD	Year-to-date

LIST OF ACCRONYMS AND ABBREVIATIONS IN SPANISH

BCRP	Central Reserve Bank of Peru (Banco Central de Reserva del Perú)
CAF	Corporación Andina de Fomento (Development Bank of Latin America)
CUT	Cuenta Única del Tesoro (Treasury's Single Account).
DGETP	Dirección General de Endeudamiento y Tesoro Público (General Directorate of Public Indebtedness and Treasury)
DGPMAC	Dirección General de Políticas Macroeconómicas y Descentralización Fiscal (General Directorate of Macroeconomic Policy and Fiscal Decentralization)
D y T	Donaciones y Transferencias (Donations and Transfers)
ESSALUD	Seguro Social del Perú (Social Healthcare Scheme of Peru)
FCR	Fondo Consolidado de Reserva (Consolidated Reserve Fund)
FONAFE	Fondo Nacional de Financiamiento de la Actividad Empresarial de Estado (National Fund for the Financing of State Companies).
FONDES	Fondo de Intervenciones ante la Ocurrencia de Desatres Naturales (Natural Disaster Relief Fund)
MEF	Ministerio de Economía y Finanzas (Ministry of Economy and Finance)
OAD	Operación de Administración de Deuda (Liability Management Operation)
ONP	Oficina de Normalización Previsional (Previsional Normalization Office)
PAEAD	Programa Anual de Endeudamiento y Administración de la Deuda (Annual Program for Indebtedness and Debt Management).
RD	Recursos Determinados (Specified Resources)
RDR	Recursos Directamente Recaudados (Directly Collected Resources)
RO	Recursos Ordinarios (Ordinary resources)
ROOC	Recursos por Operaciones Oficiales de Crédito (Resources from Debt Operations)
RSL	Reserva Secundaria de Liquidez (Liquidity Secondary Reserve)
VAC	Bonos VAC (Inflation-linked Bonds)

I. EXECUTIVE SUMMARY

The Strategy for Global Asset and Liability Management for the 2018-2021 period has had the same objective for the last five years, that is, to promote *"a sustainable and responsible management of the public finances by minimizing the liability costs and maximizing the asset returns, subject to the maximum level set out on the guidelines for the asset and liability management. For this reason, the public debt securities market in domestic currency must be further developed as the main channel to cover the temporary financial needs that come from the debt, savings and treasury management.* "Over the last four years, the Strategy for Global Asset and Liability Management focused its efforts on decreasing the exposure to the refinancing and market risks, as well as on developing the domestic public debt securities market. These efforts contributed to maintaining the sovereign credit ratings obtained since 2013.

At end-August 2017, the Non-Financial Public Sector (NFPS) financial assets stock was S/ 116 835 million (around 17.2% of GDP). The Public Treasury manages 72.9% of this resources; with 44.8% of them in soles and 78.4% in term deposits. **The financial liabilities closed at S/ 157 863 million (23.2% of GDP)**; 62.2% in soles[3] and 86.5% of the total loans are arranged at fixed interest rate.

Progress made in financial liability management allowed to reduce exposure to external shocks. The most significant risk is to the foreign exchange rate, as 37.8% of the debt is in foreign currency, while the interest rate risk is small due to the lower floating rate debt. Finally, the risk to refinancing is low in the short-term provided that there is a low accumulation of maturities and availability of funds.

Within the framework of the Strategy of Global Asset and Liability Management, the following achievements are highlighted: i) the further strengthening of the debt solarization process; ii) the prioritization of the infrastructure projects financing with funds coming from the Treasury securities auctions; iii) the implementation of auctions of the temporary liquidity surpluses of the Treasury and public entities; iv) the implementation of the I-Link platform, which lets more investors have access to bonds in soles, among others. Additionally, the quantitative targets set out on the 2017 Annual Program for Indebtedness and Debt Management were achieved.

[3] By jurisdiction, 65.5% is domestic debt.

Assessment of the Reference Quantitative Targets on the 2017 PAEAD

Indicator	Target range at the end of December 2017	Final result December 2017[1_/]
Percentage of soles in the portfolio 2_/	44.8% - 59.3%	63.3%
Percentage of fixed rate debt in the portfolio	72.2% - 74.8%	88.9%
Percentage of domestic debt in the gross balance	44.1% - 58.6%	62.5%
Average term to maturity (years)	11.9 - 12.7	12.8
Average term to reprice (years)	10.2 - 11.6	12.4
Accumulated amortizations for the following 12 months 3_/	3.8% - 3.4%	3.0%
Percentage of financing flow in domestic currency 4_/	41.6% - 65.7%	96.1%

Source: MEF - DGETP.
1_/ All indicators correspond to the Central Government only. They are shown as preliminary data. Treasury bills are excluded
2_/ The effect of arranged financial derivatives being equal to 0.3% is included.
3_/ Indicator calculating the most immediate pressure on payments.
4_/ Includes financing of debt management operations.

In this context, new challenges that must be implemented within the framework of the asset and liability management are presented: i) to improve the availability of timely and reliable information on the financial asset and liability balances and the predictability of income and expenditure flows in order to ensure the availability of funds to make payments at a lower cost, minimizing risks; ii) to vitalize the financial asset management in order to promote, during the budget programming, the priority of financing sources that accumulate balances in order to efficiently channel the resources managed by the Public Treasury; and iii) to implement new instruments to deepen, develop and invigorate the Treasury securities market in the primary and secondary market.

The Multiannual Macroeconomic Framework (MMF) for the 2018-2021 period shows the timetable for the annual financial needs until 2021 in accordance with the expected fiscal balance and the public debt payment flow.

2018-2021 MMF Timetable for Financial Needs
(Million Soles)

Year	Fiscal Deficit	%GDP	Amortization	%PBI	Total	%GDP
2018	26,266	3.5%	3,536	0.5%	29,802	4.0%
2019	23,111	2.9%	5,796	0.7%	28,908	3.6%
2020	17,843	2.1%	8,349	1.0%	26,192	3.1%
2021	9,045	1.0%	3,958	0.4%	13,003	1.4%

Source: MEF - DGPMAC.

NFPS financial needs are expected to be funded specifically through resources from the capital market in soles. According to this estimation, about 75% of the required funding, on average, would be covered with the issuance of sovereign bonds in domestic currency and 25% through foreign and local credits. The expansion of both the investor's base and the demand for Peruvian Government securities ensures the continuity of the issuance of the sovereign bonds in the domestic market as the main source to finance fiscal needs, making the public debt securities market strong in volume and depth.

A first approach for some long-term indicators for the NFPS public debt has been made: the percentage of debt in local currency should be close to 78% of total gross debt; the share of debt at fixed rate should be around 95%; and there should be an 11-year-average-term to maturity. At the end of 2021, a range of quantitative targets for some indicators monitoring the NFPS public debt has been estimated:

Reference Forecasts of the NFPS Gross Debt Indicators at End-2021 (*)

Description	Target range expected at the end of December 2021
Percentage in soles in the gross balance	65.5% - 70.7%
Percentage of fixed nominal rate debt in the gross balance	85.9% - 87.3%
Percentage of the domestic debt in the gross balance	65.4% - 70.6%
Average term to maturity (years)	11.0 - 11.2
Average term to reprice (years)	10.5 - 10.6
Accumulated amortizations over the following 12 months 1_/	6.6% - 6.1%
Percentage of financing flow in domestic currency 2_/	79.8% - 85.6%

Source: MEF- DGETP
(*) Hedging derivatives are included. Treasury bills are excluded.
1_/ Indicator calculating the most immediate pressure on payments.
2_/ Includes financing for debt management operations.

In addition to the actions related to the management of assets, liabilities, treasury and market infrastructure that have been being implemented since 2013, and following the same approved guidelines for the policy on asset and liability management, other actions must be taken to bring the Public Treasury towards a better position in line with the best international practices. To achieve this, the following strategic actions will be carried out:

- <u>To improve the predictability of the financial needs</u>
  The strategy will be aimed at gradually implementing an active cash management on a reliable and transparent basis, at continuing to implement the centralization of balances from NFPS public entities, at regulating the flow of information on public entities collection and payments forecast time, and at implementing software tools.

- <u>To develop an optimal balance-sheet structure considering liquidity and cost</u>
  The strategy will be focused on defining an optimal financial asset and liability portfolio by promoting the expenditure fungibility and the priority over the use of financing sources in order to efficiently channel the resources collected by the Public Treasury. Additionally, improvements in the management of temporary liquidity surpluses of the resources and funds managed by the Treasury are sought, thus reducing its opportunity cost. The new indebtedness level for loans will be subject to the Asset and Liability Management Committee's approval. Priority will be given to the resources that are intended to fund investment projects.

- <u>To develop the public debt securities market in soles maintaining a satisfactory debt profile</u>
  The strategy will be aimed at expanding the public debt holders' base; at updating reference points in the yield curve when holding scheduled auctions; at generating debt volume that is meaningful when looking at each of the new reference points; and at strengthening the issuance of Treasury bills, taking into account the exposure to the market risk and refinancing that might be generated through maturity concentration.

The strategy will be also aimed at promoting new instruments to improve the structure of the systems that are used in the public debt market; at strengthening the Market Makers' role; at creating a more competitive market; at providing more opportunities for the average man to have direct access to the public debt as a form of saving; at building risk-free return references in soles for the mutual funds and for pension funds; finally, at reducing the systemic risk to compensation and settlement under the Peruvian law.

- To maintain a financing plan to manage updated stress and contingency scenarios
  The strategy will be aimed at maintaining an analysis on the stress scenarios to design a financing plan to restrain, mitigate or transfer the risk when facing adverse shocks. This plan will seek for an optimal structure that ranges from cost and hedging, taking into account different instruments used as contingency instruments.

To conclude, the 2018 Annual Program for Debt Management and the new timetable for the 2018 Program for the Treasury Securities Regular Auctions are included, on which the dates for the bills and sovereign bonds auctions are set for this period of time.

II. INTRODUCTION

This document is the fourth update to the Strategy for Global Asset and Liability Management for the 2018 - 2021 period. The design of this strategy is closely related to the Multiannual Macroeconomic Framework (MMF) estimations and it reaffirms its commitment to helping our country reach positions similar to those of the countries in the region and our reference countries that are members of the OECD, in terms of cost and risk. The referred strategies include entities and institutional units that are part of the NFPS provided that no constitutional or legal mandates that they are subject to are affected.

In addition, it remains valid the main objective of promoting *"a sustainable and responsible management of the public finances by minimizing the liability costs and maximizing the asset returns, subject to the maximum level set out on the guidelines for the asset and liability management. For this reason, the public debt securities market in domestic currency must be further developed as the most important instrument to cover the temporary financial needs that come from the debt, savings and treasury management".*

In this regard, with a view to meeting these goals, the actions set out on the Strategy for Global Asset and Liability Management framework are guided by the following established policies:

a) Further development of the public debt securities market in soles, giving priority to financing requirements with funding from this market.
b) Maintenance of liquidity reserves to face instability.
c) Capitalization of public funds and reduction of their liquidity cost.
d) Maintenance of a convenient exposure to indirect debt risks.
e) Reduction of the external debt procyclicality to avoid vulnerability.
f) Helping ensure the net public debt sustainability.

During the last four years, the Strategy for Global Asset and Liability Management has focused its efforts on reducing the liability portfolio exposure to the refinancing and market risk, as well as on strengthening the domestic public debt securities market. In this context, the NFPS debt structure achieved significant improvement by increasing the debt in soles from 54.0% in December 2013 to 62.2 % in August 2017. In addition, the public debt domestic market grew from 6.4% of GDP in December 2013 to 12.6% in October 2017.

These improvements were highlighted by the main credit risk rating agencies. In 2017, Fitch Ratings and Standard & Poor's ratified the Peruvian sovereign debt rating in A- in local currency and BBB+ for foreign debt. Moody's reaffirmed its rating in A3 for both currency, all this with a stable outlook.

These agencies have underlined the credit profile given to Peru based on a history of prudent management of the public finances and the stability of the macroeconomic policies of the country over the last years. In this respect, it is worth noticing the low level of the Peruvian debt (23.8% of GDP) in 2016, one of the lowest in the region. This level is also lower than that of the averaged countries with an A- rating (44.9%) and that of the OECD country members (69.7%). Similarly, the debt ratio is low in terms of revenues (127.5%), and positively compared to the ones of our reference countries.

Table Nº 01
Indicators for Reference Countries in the Region and OECD Country Members in 2016

Indicator (%)	Peru	Latin America: Brazil	Latin America: Chile	Latin America: Colombia	Latin America: Mexico	OECD: Australia	OECD: Canada	OECD: Finland	OECD: New Zealand	Average: Countries A-	Average: OECD countries
Public debt / GDP	**23.8**	69.9	21.3	49	46	39.7	92.3	63.1	33.6	44.9	69.7
Domestic public debt / GDP	**9.4**	66.2	16.8	31.6	27	39.7	0	63.1	32.3	29.2	44.9
LCY debt / Total debt	**54.9**	93.7	82.1	68.2	81.7	100	95.8	100	98.9	76.2	92.9
Debt / Revenues	**128**	214.5	98.9	308.9	179.9	113.6	205.2	115.7	83.5	152.6	171.3
Interests / Revenues	**5.6**	19.1	3.6	20.1	9.5	4.3	7.7	2.1	5.5	5.5	4.9
Revenues / GDP	**18.5**	32.6	21.5	14.9	20	34.9	38.9	54.9	34.6	33.0	40.9
Overall balance / GDP	**-2.6**	-9	-2.9	-4	-2.9	-2.7	-1.9	-2.2	0.1	-0.7	-0.7
Deposits in the financial system in local currency/Total deposits in the Financial System	**65.4**	100	85.1	100	82	85	51.3	100	83.4	85.8	85.6

Source: Central Reserve Bank of Peru, Fitch Ratings, Moody's Investors Service and Standard & Poor's.
1_/ The information on debt for Peru and Brazil refers to the Non-Financial Public Sector; the information on debt for Chile, Colombia and Finland refers to the Central Government; and the same information for Mexico is related to the Federal Government and Social Security. The remaining data deals with the general Government.

The rating agencies, however, identify some challenges to be met by the country in order to improve its profile: initially, to continue its efforts to "solarize" the debt; in 2016 the debt in domestic currency represented 54.9% of the NFPS total debt, while the OECD countries had, on average, 92.9% of their debt in local currency. In addition, it is necessary to increase the tax base, thus the revenue as a percentage of GDP will grow from the current level (18.5%) to levels that can be compared to the ones of our reference countries in the region and the ones of the countries that have obtained BBB ratings (27.1%)

III. CURRENT SITUATION

3.1. Financial Assets

3.1.1. Classification of Financial Assets

At end-August 2017, the total NFPS financial assets reached at S/11 835 million (around 17.2% of GDP). Over the same period, based on asset ownership, it is worth noticing the public entities financial assets deposited in the Public Treasury and the Private Financial System (43.6% of the total), followed by the funds and resources for specific purposes (29.3%) and by the Public Treasury own resources (21.8%) (See Table N°02). Additionally, by funding source, these financial assets come mainly from tax collection (RO), debt operations (ROOC), transfers (RD) and public entities own revenue (RDR).

Table Nº 02
NFPS Financial Assets Classified by Ownership and Source
(Million soles)

By Ownership and Source	Dec-16		Aug-17		Usage Consideration
	Balance	Part. (%)	Balance	Part. (%)	
1. Public Treasury own resources	**30,370**	**25.5**	**25,419**	**21.8**	They are resources coming from tax collection (RO) and debt operations (ROOC).They are mainly aimed at covering budgeted expenditures, paying debt service and covering expenses for investment projects.
1.1. Ordinary Resources (RO)	15,201	12.8	10,766	9.2	
1.2. Resources from Credit Operations (ROOC)	15,169	12.7	14,653	12.5	
2. Funds, allocated and committed resources	**35,939**	**30.2**	**34,252**	**29.3**	They come from different sources and, by Law, they have their own accumulation and spending rules. The FSF and the RSL are to keep liquidity reserves to face instability. Additionally, there are other funds for public investment, technological innovation and others.
2.1. Fiscal Stabilization Fund (FSF)	27,681	23.3	26,750	22.9	
2.2. Liquidity Secondary Reserve (RSL)	5	0.0	410	0.4	
2.3. Other funds	6,148	5.2	4,738	4.1	
2.4. Allocated and committed funds	2,105	1.8	2,353	2.0	
3. Resources in public entities in the Public Treasury	**16,165.**	**13.6**	**19,634**	**16.9**	They mainly come from public entities own resources and from Public Treasury transfers. Depending on funding sources, they are aimed at covering investment plans and the current expenditure of the own entities. Most of these resources are found in the Treasury's Single Account (CUT).
3.1. Specified Resources (RD)	7,626	6.4	9,613	8.2	
3.2. Directly Collected Resources (RDR)	4.626	3.9	4,284	3.7	
3.3. Donations and Transfers (DyT)	2,558	2.1	3,880	3.3	
3.4. Other resources	1,362	1.1	1,918	1.6	
4. Public Entities Resources in the Public Treasury	**29,919**	**25.1**	**31,205**	**26.7**	These resources mainly come from intangible assets. For instance, the resources from the FCR are to fulfill the obligations related to pension schemes managed by ONP. Regarding ESSALUD, the resources correspond to revenues to cover expenditures on health benefits.
4.1. Consolidated Reserve Fund (FCR)	14,080	11.8	16,104	13.8	
4.2. Companies - FONAFE	4,807	4.0	4,361	3.7	
4.3. ESSALUD	3,896	3.3	4,089	3.5	
4.4. General Government	7,136	6.0	6,651	5.7	
5. Accounts receivable	**6,580**	**5.5**	**6,265**	**5.4**	They are resources collected by the Central Government through debt operations to be transferred to a public entity in charge of debt service.
TOTAL	**118,972**	**100.0**	**116,835**	**100.0**	

Source: MEF-DGETP

Although it appears that the NFPS financial assets level has a great scope for financing and ability to cope with adverse events, it is worthwhile to notice the importance of indebtedness to meet financing needs as most of these assets are owned by the NFPS entities or are part of funds that are under expenditure regulations, such as the Fiscal Stabilization Fund (FSF).

3.1.2. Asset Portfolio Analysis

a. Instrument-based Structure

With reference to the assets managed by the Public Treasury, when checking every account group, it can be seen that term deposits are the main instruments of capitalization (74.8%). These deposits can be mostly found at the Central Reserve Bank of Peru (BCRP). In line with the monetary policy, surpluses have been being capitalized through auctions for term deposits in the private financial system conducted by the BCRP. Although the concentration at the BCRP does not represent a counterparty risk, a rebalancing of the instruments and counterparties that are part of this portfolio must be seek in order to optimize the return/risk relation.

Table Nº 03
NFPS Financial Assets by Instrument
(Million soles)

By Instrument	Dec-16		Aug-17		YTD Change	
	Balance	Part. (%)	Balance	Part. (%)	Balance	Chg (%)
1. Resources managed by the Public Treasury	**89,053**	**100.0**	**85,630**	**100.0**	**-3,423**	**-3.8**
1.1. Current account	15,440	17.3	11,826	13.8	-3,614	-23.4
1.2. Term deposit	66,688	74.9	67,148	78.4	,460	0.7
1.3. Investment in securities	,345	0.4	391	0.5	,46	13.4
1.4. Account receivables	6,580	7.4	6,265	7.3	-,315	-4.8
2. Resources managed by public entities	**29,919**	**100.0**	**31,205**	**100.0**	**1,286**	**4.3**
2.1. Current and savings account	6,123	20.5	6,351	20.4	,228	3.7
2.2. Term deposits and others	9,604	32.1	10,416	33.4	,812	8.5
2.3. Investment in securities	14,192	47.4	14,438	46.3	,246	1.7
TOTAL	**118,972**	**100.0**	**116,836**	**100.0**	**-2,137**	**-1.8**

Source: MEF-DGETP

Regarding the assets managed by the public entities in the private financial system, it is seen that the investments in securities are the main capitalization instrument, with the most remarkable intangible assets from the Consolidated Reserve Fund (FCR) and from ESSALUD, which are managed in accordance with their policies and investment regulations. Public entities mostly keep their balances in current accounts and deposits being the Guidelines for the Global Asset and Liability Management, set out by the Public Treasury, as the reference framework.

b. Currency-based Structure

The currency-based structure for the resources managed by the Treasury comprised mainly of dollars, in particular, the FSF balances; while the resources managed by the public entities in the financial system is made up of soles; followed by the FCR resources constituted in dollars. A significant percentage in dollars is seen in both portfolios. Nevertheless, it is usual that these portfolios are exposed to a foreign exchange risk as they are reserves that must be denominated in a convertible foreign currency.

Table Nº 04
NFPS Financial Assets by Currency
(Million soles)

By currency	Dec-16		Aug-17		YTD Change	
	Balance	Part. (%)	Balance	Part. (%)	Balance	(%) Chg
1. Resources managed by the Public Treasury	**89,053**	**100.0**	**85,630**	**100.0**	**-3,423**	**-3.8**
1.1. Soles	34,768	39.0	38,355	44.8	3,588	10.3
1.2. Dollars	52,003	58.4	46,074	53.8	-5.928	-11.4
1.3. Euros	347	0.4	378	0.4	32	9.1
1.4. Yen	1,936	2.2	822	1.0	-1.114	-57.5
2. Resources managed by Public Entities	**29,919**	**100.0**	**31,205**	**100.0**	**1,286**	**4.3**
2.1. Soles	18,303	61.2	19,325	61.9	1,022	5.6
2.2. Dollars	11,551	38.6	11,865	38.0	313	2.7
2.3. Euros	65	0.2	15	0.0	-49	-76.1
TOTAL	**118,972**	**100.0**	**116,836**	**100.0**	**-2,137**	**-1.8**

Source: MEF-DGETP

3.2. Financial Liabilities

3.2.1. NFPS Public Debt Position

At end-August 2017, the NFPS total debt reached at S/ 157,863 million (23.2% of GDP),[4] a rate of 8.2% higher compared to end-December 2016, resulting basically from an increased balance of securities in circulation (+26.3%), due to a higher sovereign bond issuance. Conversely, the bilateral and multilateral loans decreased by 39.0%; then the market debt is the most representative liability (84.3% of the total) in the NFPS debt portfolio.

By jurisdiction, unlike previous years, the domestic debt is the most representative. It is mostly made up of sovereign bonds that have been issued in the domestic market (88.3% of domestic debt). Particularly, the external debt includes global bonds (73.9% of external debt). Regarding the **currency-based** debt structure, the sol has gained greater significance with growth up to 62.2%. **By rate type**, the fixed rate position is 86.5% of the total.

[4] Of this total, 93% is equivalent to S/ 146,164.8 million and correspond to the Budgetary Central Government. The Budgetary Central Government definition includes every unit being part of the executive, legislative or judicial powers. Entities that are part of different institutional units such as universities, charitable organizations, supervisory bodies or other autonomous units all compounding the Central Government are not included. Other entities or institutional units being part of this level of administration constitute the Central Government Sector.

"Year of the Good Service to the Citizen"

Table Nº 05
NFPS Public Debt Status
(Million soles)

	Dec-16		Aug-17		YTD Change	
	Balance	**Part. (%)**	**Balance**	**Part. (%)**	**Balance**	**(%) Chg.**
BY ORIGIN						
Securities in Circulation	**105,397**	**72.2**	**133,139**	**84.3**	**27,743**	**26.3**
Global bonds	38,932	26.7	44,970	28.5	6,038	15.5
Sovereign bonds	64,820	44.4	85,670	54.3	20,851	32.2
Treasury bills	1,464	1.0	2,325	1.5	861	58.8
Other bonds	180	0.1	174	0.1	-6	-3.5
Loans	**40,521**	**27.8**	**24,723**	**15.7**	**-15,798**	**-39.0**
Multilaterals	22,567	15.5	12,476	7.9	-10,090	-44.7
Paris Club	4,902	3.4	3,181	2.0	-1,721	-35.1
Others	13052	8.9	9,066	5.7	-3,987	-30.5
TOTAL	**145,918**	**100.0**	**157,863**	**100.0**	**11,945**	**8.2**
BY JURISDICTION						
External debt	68,020	46.6	60,833	38.5	-7,187	-10.6
Domestic Debt	77,898	53.4	97,030	61.5	19,132	24.6
TOTAL	**145,918**	**100.0**	**157,863**	**100.0**	**11,945**	**8.2**
BY CURRENCY						
PEN	79,485	54.5	98,149	62.2	18,664	23.5
USD	54,522	37.4	48,819	30.9	-5,703	-10.5
EUR	8,861	6.1	9,576	6.1	715	8.1
Others	3,050	2.1	1,319	0.8	-1,731	-56.7
TOTAL	**145,918**	**100.0**	**157,863**	**100.0**	**11,945**	**8.2**
BY RATE TYPE						
Fixed	113,372	77.7	136,490	86.5	23,118	20.4
Variable	22,424	15.4	11,429	7.2	-10,995	-49.0
VAC(inflation-linked)	4,684	3.2	4,848	3.1	163	3.5
ONP	5,437	3.7	5,096	3.2	-.341	-6.3
TOTAL	**145,918**	**100.0**	**15,863**	**100.0**	**11,945**	**8.2**

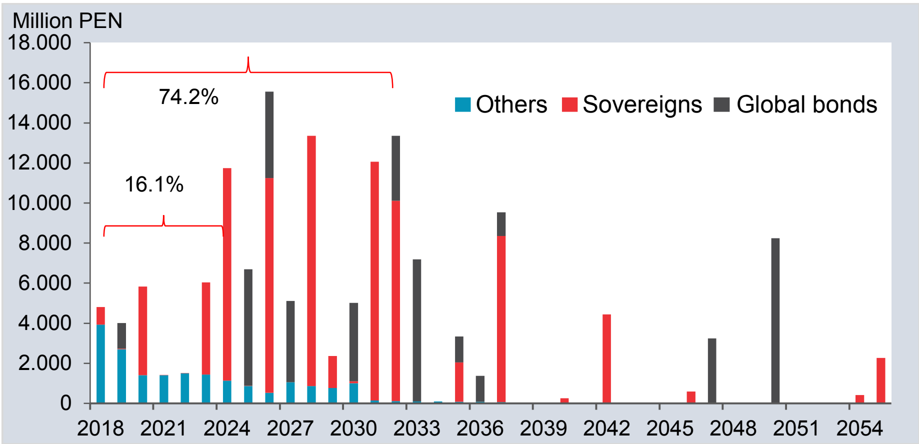
Source: MEF- DGETP

3.2.2. Financial Risk Indicators

a. Refinancing Risk[5]

The average term maturity indicator for the total public debt is used to calculate the refinancing risk being 13.29 years[6] on August 31, 2017 (14.36 years for the external debt and 12.56 years for the domestic debt). According to the amortization profile, the accumulated payment pressure will attain 16.1% up to the year 2023. Nevertheless, it will grow to 8% for the year 2024; it is from there that the concentration will grow quickly until the year 2032 with a 74.2% of accumulation. Although the fact of monitoring this risk is getting relevant when dealing with payments close to mature, it must be taken into account the concentration that is arising in the middle part of the profile.

Graph Nº01
NFPS Amortization Profile



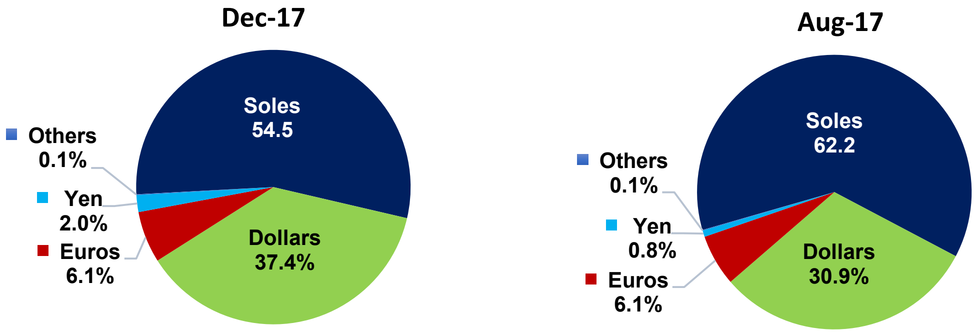
Source: MEF - DGETP

b. Foreign Exchange Risk

We have managed to increase the public debt solarization. However, a high percentage of debt is still in foreign currency (37.8%), being the dollar the most significant currency with 30.9%, followed by the euro with 6.1%

[5] The refinancing risk arises when being a possibility of refinancing debt maturities at high costs or, ultimately, these maturities cannot be renewed. There is a growing risk as long as a concentration of maturities in specific periods exists. The risk gets high due to the currency structure.
[6] Calculation based on the public debt database as of 08.31.17

Graph Nº 02
NFPS Debt Currency-based Structure



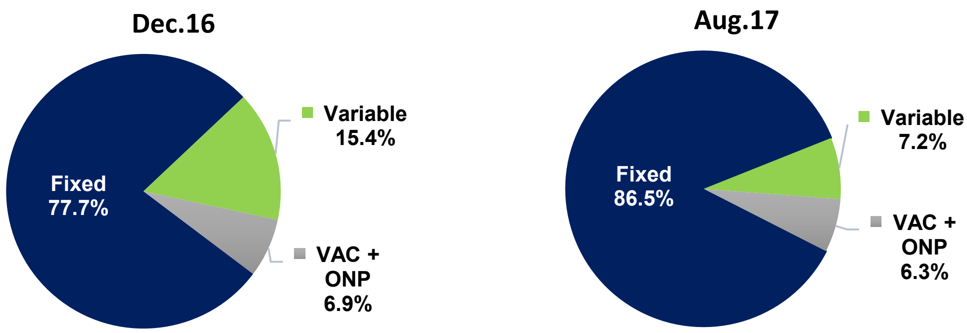
Source: MEF – **Source:** MEF - DGETP

Through a sensitivity analysis, using the Value at Risk metrics, and a historical method, at 99% confidence interval with a one-year time horizon, debt in foreign currency could be risen in S/ 7,445.5 million at maximum (1.1% of GDP), thus debt solarization would drop to 59.4%. Meanwhile, in 2018 it is expected that the debt service can increase by S/ 747.2 million (0.1% of GDP) with a one-year time horizon, at 99% confidence because of a domestic currency depreciation against the remaining currency in which the Treasury keeps liabilities.

c. <u>Interest Rate Risk</u>

Exposure to interest rate decreased steadily, confirming the flows of the NFPS public debt service in the future.

Graph Nº 03
NFPS Debt Structure by Type of Rate



Source: MEF – **D**GETP

After a 6-month Libor rate increase, the value at risk analysis takes into account a maximum increase of S/ 85.3 million per year for the payment of interest until 2021, at 99% confidence.

On balancing the NFPS passive position risks, the foreign exchange risk is the most relevant one since 37.8% of the debt is in foreign currency. Regarding the interest rate risk, this is low due to the fact that the percentage of the debt at floating rate is low. Finally, the refinancing risk in the short-term is acceptable on the condition that the concentration of maturities and the availability of funds are low.

Table Nº 06
Indicators showing the NFPS Debt Exposure at Risk

Indicator	December 2016	August 2017
Currency Risk		
Debt participation in domestic currency	54.5%	62.2%
Interest rate risk		
Fixed rate Debt / Total debt	77.7%	86.5%
ATR (years)	11.4	12.7
Refinancing risk		
ATM (years)	12.5	13.1
Concentration of amortization over the next 12 months	4.2%	4.7%

Source: MEF- DGETP.

3.3. Global Asset and Liability Management-related Achievements

The Strategy of Global Asset and Liability Management was prepared in 2013, and together with its updates, it includes the most relevant policies, objectives and goals for the Treasury financial strategy. The guidelines and general actions to be taken by all the NFPS entities or institutional units are also featured.

3.3.1. Main Achievements

Since 2013, major developments have been contributing to the financial asset and liability management positively.

<u>In Asset Management</u>

- The establishment of the Liquidity Secondary Reserve (RSL) and the Natural Disaster Relief Fund (FONDES).
- The conduction of auctions for the Treasury temporary liquidity surpluses and for those of public entities.

<u>In Liability Management</u>

- The implementation of a Program for Regular Auctions of Treasury Securities.
- The prioritization of funding for infrastructure projects with funds stemming from securities Treasury auctions.
- The mitigation of the refinancing and market risks in the public debt structure through liability management operations (LMO), financed with resources coming from the domestic public debt securities market, boosting its development.

<u>In Treasury Management</u>

- Improvements in the centralization of resources in the CUT that provides the Public Sector Budget with financing.

- Greater use of electronic payment operations by governmental entities.

In Market Structure

- Maintenance of the Public Treasury Index as a risk-free return reference for domestic market players. Based on it, the FDS was established to help boost Peru's secondary market for public debt securities.
- The implementation of the Euroclear I-Link letting foreign investors have access to Peruvian bonds in soles. Because of this, there is a diversification of the Treasury securities holders' base.
- The extension of the investors' base and the development of the Treasury securities secondary market.

Finally, the seven quantitative targets on the 2017 PAEAD were met as a result of increased debt in soles and at fixed rate during the period, and the LMO implementation as well.

Table Nº 07
Reference Quantitative Targets Assessment on the 2017 PAEAD

Indicator	Target Range at the end 2017	Final Result December 2017 1_/
Percentage of soles in the portfolio 2_/	44.8% - 59.3%	63.3%
Percentage of fixed rate debt in the portfolio	72.2% - 74.8%	88.9%
Percentage of the domestic debt in the gross balance	44.1% - 58.6%	62.5%
Average term to maturity (years)	11.9 - 12.7	12.8
Average term to reprice (years)	10.2 - 11.6	12.4
Accumulated amortizations over the next 12 months 3_/	3.8% - 3.4%	3.0%
Percentage of the financing flow in domestic currency 4_/	41.6% - 65.7%	96.7%

Source: MEF - DGETP.
1_/ All indicators shown are from the Central Government only. They are all preliminary data.
2_/ The effect of the arranged financial derivatives being equivalent to 0.3% is included.
3_/ Indicator that calculates the most immediate pressure on payments.
4_/ Includes financing for debt management operations.

3.3.2. Other Challenges

In order to continue implementing the global asset and liability management, there are still some difficulties and challenges that must be overcome:

a. To improve the availability of the information and the predictability of revenues and expenditures flows

A comprehensive Treasury management requires timely and reliable information on its financial assets and liabilities, on its flows of revenues and expenditures as well in order to ensure the availability of funds to make payments at the lowest cost, minimizing risks. For many countries, the fact of making accurate forecasts is a challenge. By doing so, difficulties arise when obtaining pertinent data to prepare plans and cash flow projections.[7] Likewise, it is important to be aware of the financial asset and liability position. Being aware of the conditions to monitor the balance structural risk is of great significance too.

[7] Liener, Ian., 2009. *Modernización de la Gestión de Caja* (Cash Management Modernization). International Monetary Fund.

Regarding flow predictability, it is worth mentioning that public entities get their own resources which the Treasury needs to use based on their accurate projections. On the expenditure side, despite the fact that there is a Payment Calendar Planning that is also used as an expenditure control tool, the provided information can create biased forecasts.

The process of registration and consolidation of financial assets and liabilities for entities at the three Government level is exposed to a high operational risk. In fact, at present, there are limitations in the processes to prepare timely and highly reliable statistics, making it difficult for the Public Treasury to manage assets and liabilities globally and to monitor compliance of policies and accounting reconciliation on an individual and aggregate basis.

To this respect, there is a need for implementing IT tools for the financial asset and liability balances and for the revenues and expenditures of the Public Treasury entities. These tools will be helpful for registration on a standard basis and they are subject to international accounting standards, financial information and fiscal statistics. Thus, there is a cash flow planning that is in line with an efficient management of the country´s financial resources.[8] At present, the Treasury has developed a registration tool for the financial asset and liability balances to be implemented soon. Nevertheless, further developments are required, as well as legal support to obtain cash flow data.

b. <u>To manage financial assets dynamically</u>

Over the last years, public entities have increased their financial assets due to accumulated unspent balance from own resources and transfers (royalties, mining royalties, among others). These resources are kept both in the CUT and the Financial System. In addition to unspent balances, public entities are given a budgetary allocation coming from Public Treasury resources. In this regard, in order to have an improved financial asset management, determining priorities over financing sources that accumulate on-balance sheet balances during the budgetary planning process is required, promoting the use of balances accumulated by entities and allowing an efficiently channeling of the resources managed by the Public Treasury.

In addition to the above, new alternatives to capitalize the temporary surpluses must be sought, making further advances on institutionality through which the Treasury manages such surpluses. Similarly, it is important to achieve greater consistency between the goals of the funds and their corresponding investment policies.

c. <u>To implement new tools to further develop the public debt securities market</u>

From previous strategies, the development of the repo operations market and the creation of a sovereign debt fund (SDF) were considered. They will be strengthened in order to make the primary and secondary market dynamic.

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[8] International experience suggests that positive cash flow forecasts are mostly based on spending units and tax agencies that are the ones having a vast knowledge of cash flows.

There have been some advances in terms of regulations during the development of the repo market; however, there are some aspects that are being reviewed. The implementation of repo operations will provide the Treasury securities with liquidity.

After implementing the sovereign debt fund, it will be intended to give access to the public through a structure that is changing to an Exchange-Traded Fund (ETF) structure, that is, a fund that is being listed in a stock exchange locally and/or abroad. Thus, the agents who are interested in investing in Peruvian sovereign bonds will access the market easily as transaction costs will decrease, and trading volume securities will increase.

In this way, it is necessary to consolidate a comprehensive Government Treasury management with timely and comprehensive information on revenues and expenditures, regardless the financing source and the Public Treasury, leading to a better coverage of the cash flow financial planning, a more efficient financial resource management and the supply of new tools for the debt market development, all in accordance with the OECD standards and the best international practices in public finances management.

IV. NFPS FINANCING REQUIREMENTS

Being published in August 2017, the 2018-2021 MMF estimated the NFPS financial requirements for the next four years in accordance with the expected fiscal balance and the public debt payment flow.

Table Nº 08
2018-2021 MMF Financial Requirements Planning
(Million soles)

Year	Fiscal Deficit	% of GDP	Amortizations	% of GDP	Total	% of GDP
2018	26,266	3.5%	3.54	0.5%	29,802	4.0%
2019	23,111	2.9%	5.80	0.7%	28,908	3.6%
2020	17,843	2.1%	8.35	1.0%	26192	3.1%
2021	9,045	1.0%	3.96	0.4%	13,003	1.4%

Source: MEF - DGPMAC.
Note 1: For 2018, S/ 6 887 million are aimed for prefinancing. Considering this amount, S/ 5 835.3 million (52% of the required total) have been placed as of October 2017. FONDES is also included.
Note 2: S/ 4390 million come from the loans granted to Petroperú for the year 2018. S/ 3411million come from the issuance of a Petroperú external bond of US$1000 million.

Even if Peru has been experiencing an important economic growth mainly backed by a favorable international environment and high prices of commodities, in particular, in the mining-metallic sector, [9] this financial structure could be changed due to the fact that international organizations, such as the International Monetary Fund (IMF),considers that threats to the potential growth and to the country financial stability are slightly

[9] According to the IMF, Peru has grown, on average, 5.25% annually since 2000, which has help reduce poverty and unemployment levels. The establishment of economic and financial policy frameworks and the structural reforms have supported growth in Peru. They have also contributed to improving social indicators. Similarly, it is worth mentioning the latest implementation of reforms that are aimed at modernizing the economy and maintaining growth. There are reforms such as: new regulatory frameworks to boost public investment and the Private Public Partnerships (PPPs) the efforts made to decrease bureaucratic barriers in order to have a better business environment, and finally, an improved fiscal transparency, among others.

numerous compared to the opportunities in the international context. Domestically, as a way of illustration, this balance could be affected owing to natural disasters as well.

In this context, the IMF has identified the following external risks: (i) uncertainty over the economic policy, for instance, in the United States where it is seen that its economic growth is in the process of consolidation. This can affect the US export and constrain the domestic financial conditions; (ii) dollar appreciation and higher interest rates which can accentuate the outflow of capital from Peru and bring instability to the financial system; and (iii) the continued and weak economic growth seen in developed and emerging countries, including the economic slowdown in China. A global weak demand can limit the economic growth owing to a lower export volume. The IMF considers that there is a high probability of occurrence of such risks; in particular, uncertainty over policies in other countries.

These risks elements are regarded as lower growth, lower tax collection, an extended fiscal deficit, and consequently, higher indebtedness. Nevertheless, Peru will be able to make use of its fiscal reserves partially and take increased external credits replacing financing from capital markets, without jeopardizing the maintenance of the debt level below 30% of GDP. If so, the economic reactivation would be being promoted without affecting the country debt profile, in addition to implementing countercyclical policies to support the reconstruction and economic reactivation efforts.

V. FINANCING SOURCES

The NFPS financial requirements are expected to be mainly financed through financing coming from the capital market in soles. Disbursements from multilateral and bilateral organizations aimed at funding investment projects will also continue to be received.

5.1. Sovereign Bonds

Over the last years, the public debt securities market in soles has turned into one of the main sources of financing in order to meet fiscal needs. Today, the size of this market reaches at 12.6% of GDP[10] (6.4% of GDP until 2013). Thus, not only has been modified the NFPS public debt structure in soles but the secondary market has also been strengthened (at present, on average, the monthly trading volume is S/ 7,053 million).[11] This market has become more competitive and free from influence; as a result, Peru continues moving on the way of reaching other countries' performances. These countries' markets are bigger, deeper and more liquid.

So far this 2017,[12] sovereign bonds have been issued through the regular auction program for S/10,830 million. The amount is aimed at funding public investment projects, paying debt and pre-financing fiscal needs for 2018.

In this respect, the demand for sovereign bonds for the following years has been calculated, taking into consideration the effects of factors such as: the total fund balance

[10] The Treasury securities volume (in circulation as of October 2017) attains to S/ 85,371 million. Similarly, in order to calculate the ratio, the nominal GDP as June 2017, published by the Central Reserve Bank of Peru, was used.

[11] Simple average of the traded volumes from January to October 2017.

[12] As of October 20, 2017

increase,[13] the sovereign bond percentage in the fund structure,[14] the replacement of bonds that are to mature with new bond issuances,[15] among others.

Table Nº 09
Potential Demand for Sovereign Bonds for the Period 2018-2020
(Million soles)

Demand	2018	2019	2020	Annual Average
Total	[8,168 – 11,006]	[8,812 – 11,686]	[9,289 –12,358]	[9,786 –12,713]

Source: MEF - DGETP.

The range of the estimated demand for Treasury securities by the domestic and international investors ensures the continuity of the sovereign bonds issuance in the local market as the main financing source to meet fiscal requirements. This will lead to the consolidation of the public debt securities market in terms of volume and depth, even if some adverse effects are foreseen as a result of the monetary policy normalization process in highly developed countries that could create turbulence and volatility in the demand for Treasury securities in domestic currency in emergent countries.

5.2. Global Bonds

As long as the public debt securities market conditions in soles are favorable and are in accordance with the Strategy for Global Asset and Liability Management goal, the Central Government will not issue bonds in foreign currency.

5.3. External and Internal Credits

Other significant sources of financing for the country are the bilateral and multilateral organizations (externally) and Banco de la Nación (locally).

Over the last 10 years, the annual average of disbursements through external and local credits was around 38%, showing a downward trend in the last years (see Graph N°04). Of the total lending in this period, around 77%, on average, are from resources coming from bilateral and multilateral organizations. Around 51% of the amount disbursed by these creditors have financed public investment projects.[16] Graph N°04 shows that this component has had an upward trend until 2012. Conversely, over the following three years, a downward trend has been seen. From 2016, a reactivation has been observed.

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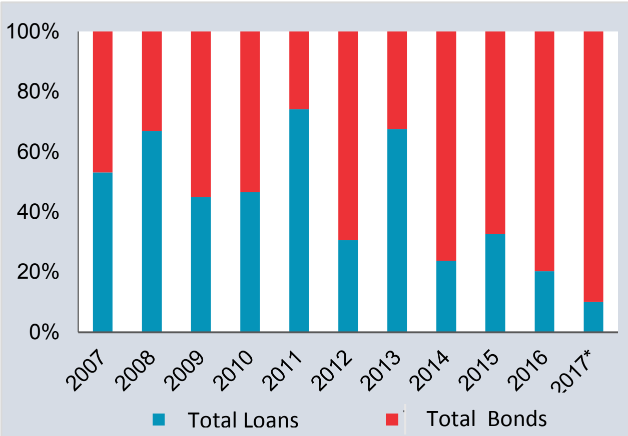
13 As long as funds managed by investors experience vegetative growth, a proportional development of the demand for different investment instruments (assets, bonds, etc.) is seen. Treasury bonds are included.

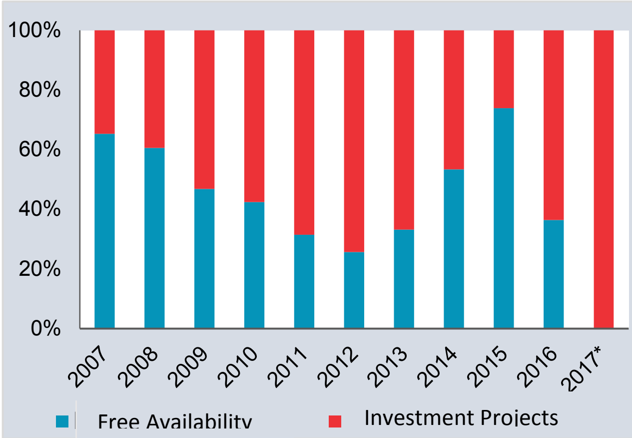
14 The institutional investors are used to maintaining an investment structure with limited concentration and tax diversification as part of their risk policies. Normally, there are few changes in time for these policies. Therefore, the funds grow proportionally to the demand for Government securities within the portfolio.

15 The issued sovereign bond redemption is replaced by the same instruments (new issuances). Thus, the institutional investors can maintain these bonds in their funds regardless of the gradual increase of their holdings.

16 It must be taken into account that these creditors do not only provide funds for projects, but they also provide technical assistance to implement them.

Graph N° 04
Percentage of Loans in the Total Delivered Disbursements and their Destination





Source: MEF - DGETP.
(*) In the third quarter 2017.

The IDB and the WB are the main creditors. Over the last 10 years, they account for around 64% on average. The Development Bank of Latin America (CAF) and JICA have totalized 29%.

Considering this analysis in order to continue increasing the participation of the domestic currency in the NFPS gross debt structure, the new indebtedness level, which comes from loans, will be subject to the Asset and Liability Management Committee's approval. Priority will be given to resources that are to fund investment projects.

VI. STRATEGY FOR THE 2018-2021 PERIOD

6.1. Long-term Vision

A first approach to some NFPS public debt target indicators based on the currency mismatch model by Calvo, Izquierdo and Talvi[17] has been made, where long-term reference indicators have been defined.

Table Nº 10
Indicators Displaying Long-term Reference Values

Indicator	Reference Value	Range
Debt ratio in foreign currency against local currency	22 : 78	+ / - 3%
Fixed rate debt against variable debt rate	95 : 5	+ / - 2%
ATM (years)	11	+ / - 2

Source: DGETP - MEF

[17] See Appendix 3.

To reach these long-term indicators, the strategy will be aimed at: (i) increasing the debt participation in domestic currency; (ii) increasing the debt participation at fixed rate; and (iii) reaching a debt average term to maturity that may balance both costs and risks.

6.2. Mid-term Strategic Target

Having defined the long-term reference indicators, a range of quantitative targets for some follow-up public debt indicators from the NFPS at the end of 2021 has been calculated. For this purpose, market conditions forecasts have been taken into account, as well as the macro environment and the cost-risk analysis.[18] The said indicators have been listed in the following table:

Table N° 11
Reference Forecasts of the NFPS Gross Debt Indicators as of 2021 (*)

Description	Expected Range at the end of December 2021
Percentage of soles in the gross debt balance	65.5% - 70.7%
Percentage of nominal fixed rate debt in the gross balance	85.9% - 87.3%
Percentage of domestic debt in the gross balance	65.4% - 70.6%
Average term to maturity (years)	11.0 - 11.2
Average term to reprice (years)	10.5 - 10.6
Accumulated amortizations over the following 12 months 1_/	6.6% - 6.1%
Percentage of financing flow in domestic currency 2_/	79.8% - 85.6%

Source: MEF- DGETP
(*) Hedging derivatives are included. Treasury bills are excluded.
1_/ Indicator calculating the most immediate pressure on payments.
2_/ Includes financing for debt management operations.

6.3. Strategic Actions

Different strategic actions that are intended to strengthen the public asset and liability management have been established since 2013. Many of these actions have already been implemented and have contributed to strengthening the role of the public indebtedness and the treasury.

Nevertheless, there are still gaps to be filled in order to modernize the Treasury considering the extent of some objectives and goals in terms of financial asset and liability management. The strategic actions, having already been published and being in force, include these objectives and goals. In this regard, some strategic actions that will help modernize the Treasury in accordance with the best international practices are listed as follows:

- **To improve the predictability of the financial needs**
  The strategy will be aimed at implementing gradually an active cash management on a reliable and transparent basis, at continuing with the implementation of the

[18] See Appendix 4.

NFPS public entities balances centralization, at regulating the flow of information on public entities collection and payments forecast, and at implementing software tools.

- **To develop an optimal balance-sheet structure considering liquidity and cost**
  The strategy will be focused on defining an optimal financial asset and liability portfolio by promoting the expenditure fungibility and the prioritization of the use of financing sources in order to make better use of the resources collected by the Public Treasury. Additionally, improvements in the management of temporary liquidity surpluses of the resources and funds managed by the Treasury are sought, decreasing the opportunity cost. The new loan indebtedness level will be subject to the Asset and Liability Management Committee's approval. Priority will be given to the resources that are intended to fund investment projects.

- **To develop the public debt securities market in soles by maintaining an appropriate debt profile.**
  The strategy will be aimed at expanding the public debt holders' base; at continuing to hold scheduled auctions, updating reference points in the yield curve; at generating debt volume that are meaningful for each of the new reference points and strengthening the issuance of Treasury bills, taking into account the exposure to the market risk and refinancing that might be generated through maturity concentration.

  The strategy will be also aimed at promoting new tools to improve the structure of the systems that are used in the public debt market; at strengthening the Market Makers' role; at creating a more competitive market, free from influence; at providing more opportunities for the average man to have direct access to the public debt as a savings instrument; at building risk-free return references to in soles for mutual funds and pension funds; finally, at reducing the systemic risk to compensation and transaction settlement under the Peruvian law.

- **To maintain a financing plan to manage updated stress and contingency scenarios.**
  The strategy will be aimed at maintaining an analysis on the stress scenarios to design a financing plan to restrain, mitigate or transfer the risk stemming from adverse shocks. This plan will seek for an optimal structure balancing cost and hedging, taking into account different instruments used as contingency instruments.

APPENDIX 1: 2018 Annual Program for Indebtedness and Debt Management

The 2018 Annual Program for Indebtedness and Debt Management has been formulated within the framework of the Article 14 of the Consolidated Amended Text of the Law N°28563, General Law on the National Indebtedness System, approved by the Supreme Decree N°130-2017-EF and its amendments in 2017. Its policies, objectives and quantitative goals adopt a long-term perspective and they are consistent with the fiscal targets on the 2018-2021 MMF and are part of the 2018-2021 Strategy for Global Asset and Liability Management.

There have been significant advances in the public debt management regarding the public debt structure change in terms of currencies and interest rates. The domestic currency rate is above 60% and the fixed rate debt is above 80%. In this sense, there have also been advances towards the strengthening of the public debt securities market with a volume of outstanding securities that is higher than 12% of GDP.

These achievements are the result of the Ministry of Economy and Finance commitment to maintaining fiscal discipline and current macroeconomic prudence. This is reflected in the credit risk rating with stable outlook having been assigned to Peru amid a climate of uncertainty in the region where our main reference countries have experienced a certain setback in their sovereign risk profile.

In this regard, the Annual Program for Indebtedness and Debt Management is the instrument that specifically regulates financing to partially meet the public sector financing needs at the lowest costs possible, which are subject to a prudential degree of risk, and accordingly with the country capacity to pay. Additionally, it reduces the market risks and the refinancing of the public debt structure and helps develop the public debt securities market. All this is made within the framework of reference for the financial asset and liability management included in the Strategy for Global Asset and Liability Management guidelines. [19]

Since the Articles 17 and 28 of the Consolidated Amended Text of the Law N°28563, General Law on the National Indebtedness System, stipulate the procedures to set the maximum number of negotiations for debt operations to be considered in the Annual Program for Negotiations of Debt Operations and the Annual Program for Disbursements, respectively, being one of its main parameters the objectives, policies and goals for the

[19] Basic principles of the financial management:
- Optimization of risk and return/cost ratio.
- Centralization of the flow liquidity and fund balance.
- Comparison of alternatives considering the same comparative base.
- Priority of the highest possible competition at all levels.

Financial policies for the asset and liability management:
- To deepen the securities market by increasing the public debt in soles.
- To maintain liquidity reserves to face instability.
- To reduce the external debt procyclicality as a source of vulnerability.
- To maintain a sound financing structure for the indirect debt.
- To ensure the net public debt sustainability.

Strategic guidelines for the management of the structural risk:
- Optimization of the liquidity risk management.
- Adoption of a countercyclical position before the interest rate risk.
- Exchange risk diversification
- Control over the concentration risk.

Annual Program for Indebtedness and Debt Management, what follows provides the actions to be taken in 2018 in order to meet the goals of the different indicators measuring the public finance vulnerability level; the development of the domestic securities market; the debt service concentration and others that are all consistent with the principles, financial policies, tactic guidelines and objectives set out on the Strategy for Global Asset and Liability:

- The financing of the fiscal requirements as expected on the MMF will come preferably from the public debt domestic securities market in soles.
- To the extent that conditions on public debt domestic securities market in soles will be favorable and in line with the objective of the Strategy for Global Asset and Liability Management, the Central Government will not issue bonds in foreign currency.
- Funding of investment projects preferably through resources in soles from the domestic public debt securities market will continue to be promoted.
- The new indebtedness level resulted from loans will be subject to the Assets and Liabilities Management Committee's approval. Priority will be given to the resources that have been allocated to fund investment projects.
- The Treasury bills will continue to be auctioned on a weekly basis for 3, 6, 9 and 12 months terms for a total balance proposed to not exceed S/ 3,000 million at end-2018.
- In the short, medium and long part of the yield curve, sovereign bonds will be issued on a weekly basis, with references between 1 and 4 years, 5 and 10 years and more than 10 years, respectively.
- The mitigation of the refinancing risk, avoiding the rise of concentrations of Treasury securities with an unfavorable cost against market conditions.
- Special auctions to continue increasing the secondary market liquidity, and generally, the size of the public debt securities market will be held when possible. By preference, these issuances will be made when market conditions are favorable to the country's interests.
- Settlement of Sovereign bonds and Treasury bills will be made on a delivery-versus-payment basis.
- Special auctions will be conducted to exchange public debt securities in domestic currency when possible. They will be conducted provided that the market conditions are favorable to the country's interests in order to improve the gross debt profile. The aim of these operations is to provide each type of investor with the chance to rebalance their holdings based on the profiles or objectives of their investment portfolios.
- The Sovereign Debt Fund will be encouraged to turn into an *Exchange-Traded Fund (ETF).*
- Repurchase operations for the Public Treasury securities will be carried out. The aim of these operations is to start refining the treasury management and to increase the demand for these instruments and, as a result, their liquidity in the public debt securities market.
- Communication with credit rating agencies and the domestic and foreign investors will be further developed in order to keep them informed about the performance of debt indicators and the actions that might be expected to be taken or the operations that might be expected to be carried out.

Some follow-up indicators have been defined in order to quantify the effect of these actions on the NFPS debt management. Their values have been set considering the different deterministic scenario to set a reference range of targets to be achieved at end-2018

NFPS Reference Quantitative Targets at End- 2018 (*)

Indicator	Range at the end of 2018
Percentage of soles in the portfolio	58.9% - 62.5%
Percentage of fixed rate in the portfolio	85.6% - 86.2%
Percentage of domestic debt in the gross balance	58.3% - 62.0%
Average term to maturity (years)	11.6 - 11.5
Average term to reprice (years)	10.9 - 11.0
Accumulated amortizations in the following 12 months1_/	3.0% - 3.0%
Percentage of the financing flow in domestic currency2_/	58.8% - 66.1%

Source: MEF- DGETP
(*) Hedging derivatives are included. Treasury bills are excluded.
1_/ Indicator calculating the most immediate pressure on payments.
2_/ Includes financing for debt management operations.

"Year of the Good Service to the Citizen"

APPENDIX 2: Schedule on the 2018 Regular Auction Program for Treasury Securities

January 2018 1

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

February 2018 2

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

March 2018 3

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

April 2018 4

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

May 2018 5

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

June 2018 6

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

July 2018 7

S	M	M	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

August 2018 8

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

September 2018 9

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

October 2018 10

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

November 2018 11

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

December 2018 12

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

On Tuesdays of each month: Treasury bills auctions.

On Thursdays of each month: Sovereign bonds auctions.

In accordance with the Law on Indebtedness of the Public Sector for the 2018 Fiscal Year, the maximum amount of sovereign bonds to be issued is S/ 12,173.4 million. A relative reference range to be issued has been set according to the following terms:
[30% - 40%] for terms<= to 5 years.
[40% - 50%] for terms>to 5 years y <= to 10 years.
[20% - 30%] for terms>to 10 years.

Terms and conditions of the information contained in this appendix: should coincide any of the regular auction dates with holidays, this can be rescheduled. Before each auction takes place, the General Directorate of Indebtedness and Public Treasury will specify the bills and bonds to be issued in the auction. In addition, the General Directorate of Indebtedness and Public Treasury may reserve the right to modify the schedule of the Regular Auction Program for the Treasury securities.

APPENDIX 3: Long-term Vision

The objective[20] of a debt strategy is to ensure that the Government financing requirements are met by fulfilling payment obligations at the lowest possible cost, taking into account a prudent risk level, placing emphasis on the risk exposure management,[21] specifically implied in the debt portfolio, and on possible variations in the debt service cost and their effects on the budget. The outcome of the strategy and its achievements must lead to a combined target indicators that allows the delimitation of the exchange risk levels and rates through which the Government takes the actions to manage the public debt.

Long-term Vision

The long-term indicators related to the exchange matching and rate risks supported by the strategy are as follows:

Table Nº 12
Long-term Indicators

Indicator	Strategic targets	Rates
Debt ratio in foreign currency against domestic currency	22 : 78	+ / - 3%
Fixed interest rate ratio against the variable	95 : 5	+ / - 2%
Average term to maturity (years)	11	+ / - 2

Source: DGETP - MEF

These objectives can be assessed considering the resources to meet debt obligations: (a) country production capacity, and (b) volatility of the fiscal returns and tax burden.

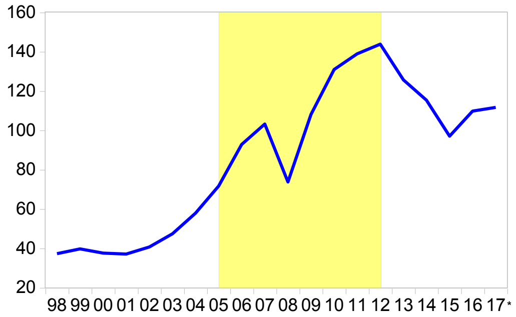
a) <u>On the production capacity side</u>
The targeted debt ratio in foreign currency (FC) against the local currency (LCY) shows the public debt balance that must be financed through FC and LCY. This indicator will be in line with each market limitations, as well as the country opportunities regarding the strengthening of the local debt market.

In order to determine the long-term targeted ratio of this indicator, the currency mismatch model by Calvo, Izquierdo and Talvi[22] (2003) is used. There is an argument on the model over the real exchange rate (RER) changes that can have an impact on a country's fiscal solvency in terms of their effects on the debt ratio/GDP, taking into account an economy with two production possibilities: (i) production of tradable goods or export goods, and (ii) production of non-tradable goods to be consumed in the local market. Therefore, a country would perfectly match if its ratio of FC/LCY debt is similar to its tradable production ratio against non-tradable goods.
The tradable-goods sector, that is, the one that manufactures goods for export and the investment in this sector will depend on export goods (tradables) relative price. In Peru, it is worthwhile to notice that the commodities price boom contributed to increasing the

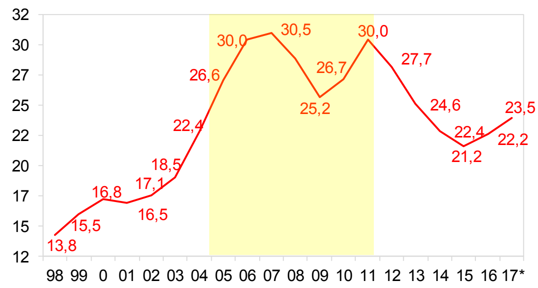
[20] See: "Developing a Medium-Term Debt Management Strategy (MTDS) — Guidance Note for Country Authorities" – February 2009.
[21] Foreign Exchange rate for interest rates and refinancing.
[22] See: Calvo, Izquierdo and Talvi (2003). "Sudden Stops, the Real Exchange Rate and Fiscal Sustainability: Argentina's Lessons". NBER – Working Paper 9828.

percentage of the export ratio against the GDP from 17% in 2000 to almost 30% for the 2007-2011 period, then this percentage fell again to 22% in 2016.

Export Prices (EPI)



Exports/GDP



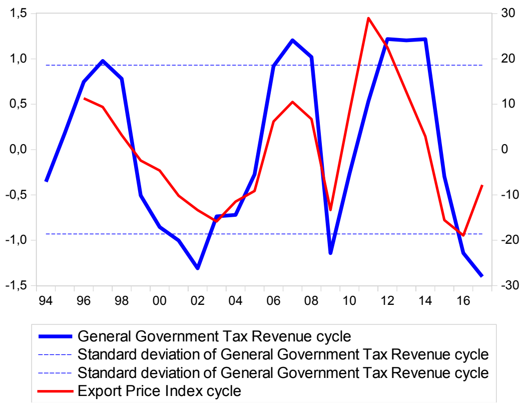
Source: BCRP

In Peru, a large part of the Government revenues depends on activities related to the tradable sectors (or export sectors). Likewise, public debt would be denominated in a meaningful percentage in FC (in terms of tradable goods).

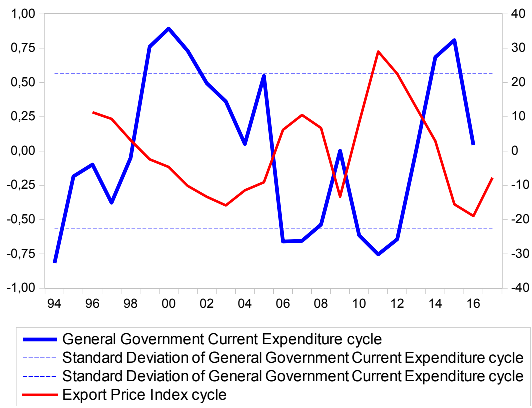
The currency mismatch in the public sector balance appears when debt in FC/LCY does not balance with the export/non-export GDP percentage. This mismatch could lead to changes on the real exchange rate having an impact on the fiscal solvency due to external shocks. It is estimated that there would be a perfect match with a rate of 78% of debt in LCY and a debt in FC up to a rate of 22%.

b) <u>On the tax burden side</u>
The General Government tax revenues are seen to be related in great extent to the export price cycle. Government expenditures cycles do not follow the same pattern.

Ratio of GG Tax Revenue / GDP vs. Export Price



Ratio of GG Current Expenditure / GDP vs. Export Price

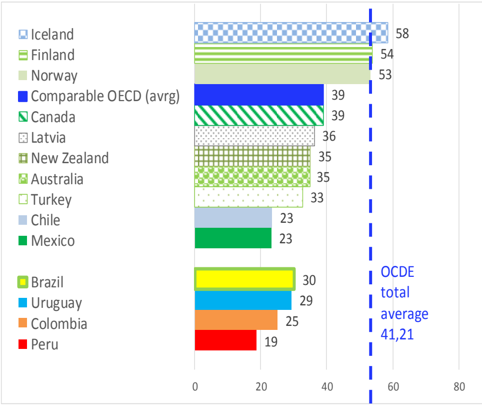


Source: BCRP; **elaborated by** DGETP-MEF

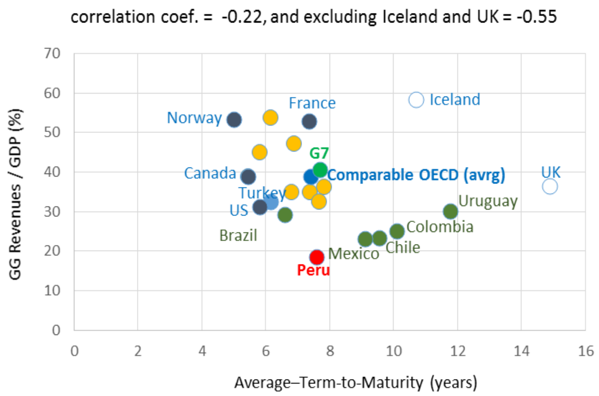
The optimal target debt term (average term to maturity) is calculated by assessing the payment capacity; the debt sustainability; the debt service softening within a context of the level of the tax burden; the price volatility and the Government expenditure procyclicality.

According to the literature analysis, there would be a relation between the average term to maturity and tax burden. It can be defined which middle-income countries, having a low tax burden and more probabilities to face a refinancing crisis, choose a longer maturity to reduce risk. The IMF sets an average term to maturity of 7.6 years for Peru in line with countries having a tax burden ranging from 50% and 200% higher than the Peruvian tax burden percentage. At the same time, it is seen that LA6 countries with a higher tax burden have an average term to maturity between 9 and 12 years. In Peru, the average term to maturity is 11 years.

2016 GG/GDP Revenues OECD countries, LA6



ATM vs. GG Revenues / GDP OECD countries, G7, LA6



Source: IMF
Elaborated by: DGETP-MEF

The target debt ratio at a floating rate compared to the fixed rate cannot exceed 5% of its total debt balance. This indicator is supported by the floating interest rates being the most vulnerable to a rate increase. This involves facing the risk of a rise in the debt service due to possible increases in the interest rates in the future. Consequently, it should be advisable to set a low debt percentage at floating rate, reflecting the Government revenues volatility and their tax burden. In addition, at present the Government has succeeded in getting a permanent financing source at a fixed rate as it is the sovereign debt market in soles. The cost-risk relation makes this option attractive amid a low indebtedness policy at a floating rate.

APPENDIX 4: Forecasts and Simulations for the NFPS Debt Indicators

Taking into consideration the gross debt forecasts and the 2018-2021 MMF, containing the targets and fiscal regulations for the said period and the international and domestic financial markets perspectives that will set the access and terms through which the new debt and some debt management operations will be attracted, the reference range for the objectives to be achieved at end-2021 is calculated through four deterministic scenarios (the base scenario, the optimistic scenario, the pessimistic scenario and the stress scenario).

Forecasts for Some NFPS Macroeconomic Variables Used In the Simulations for Each Scenario

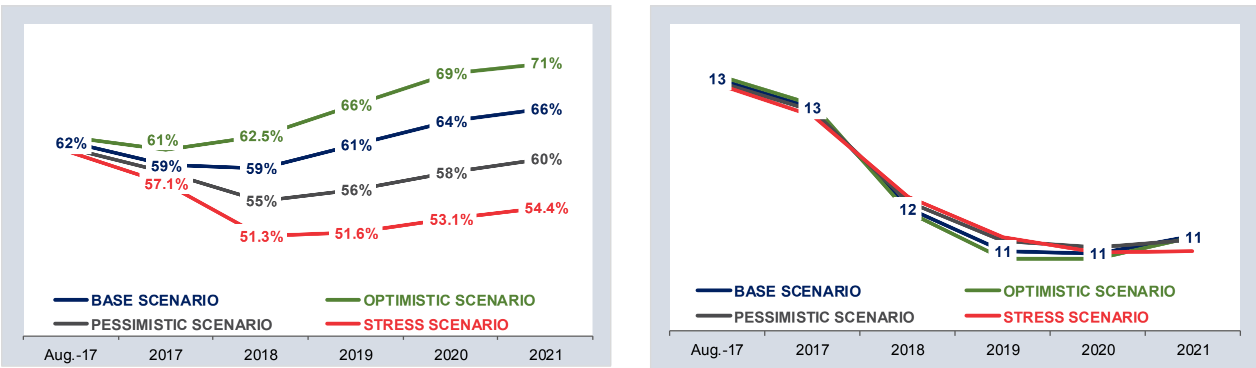
Assumptions	Base Scenario		Optimistic Scenario		Pessimistic Scenario		Stress Scenario	
	External	Internal	External	Internal	External	Internal	External	Internal
Primary Result (GDP %)	Between -1.8% in 2017 to 0.5% in 2021		Between -1.5% in 2017 to 0.9% in 2021		Between -2.2% in 2017 to 0.1% in 2021		Between -2.3% in 2017 to -0.1% in 2021	
GDP Real Growth Rate (%)	Between 2.8% in 2017 to 4.0% in 2021		Between 2.8% in 2017 to 5.0% in 2021		Between 2.8% in 2017 to 3.5% in 2021		Between 2.8% in 2017 to 3.0% in 2021	

Source: MEF- DGETP

Results of Simulations and Definition of the Indicator Range

The following graph shows the results of some follow-up indicators for the NFPS gross debt that would be achieved in the following 4 years.

Some NFPS Gross Debt Indicators



Source: MEF- DGETP

At the end of 2021, the reference range of the NFPS gross debt follow-up indicators that is intended to have was set, considering the results of the future base scenario and the optimistic scenario.

Reference Forecasts for the NFPS Gross Debt Indicators at End-2021 (*)

Description	Expected Range at the End of December 2021
Percentage in soles in the gross balance	65.5% - 70.7%
Percentage of nominal fixed rate debt in the gross balance	85.9% - 87.3%
Percentage of domestic debt in the gross balance	65.4% - 70.6%
Average term to maturity (years)	11.0 - 11.2
Average term to reprice (years)	10.5 - 10.6
Accumulated amortizations in the following years 1_/	6.6% - 6.1%
Percentage of the financing flow in domestic currency 2_/	79.8% - 85.6%

Source: MEF- DGETP
(*) Hedging derivatives are included. Treasury bills are excluded.
1_/ Indicator that calculates the most immediate payment pressure.
2_/ Includes financing for debt management operation.

Debt Service Projection and Gross Debt Composition

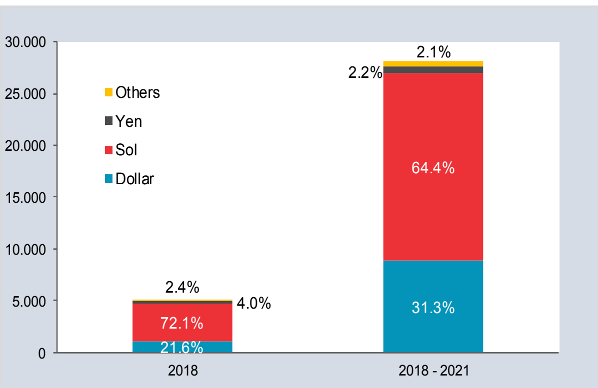
As long as the **base scenario** shows conservative assumptions that are expected to reach, the position analysis and the gross debt projections are displayed as follows:

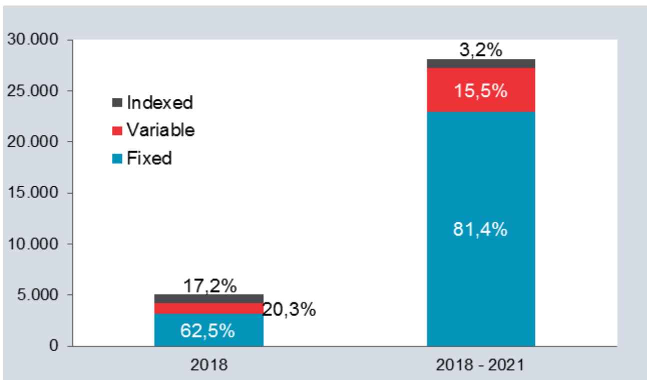
a. Projection about the gross debt service based on currencies and interest rates

The 2018 amortizations are around 3.0% of the total debt with an average rate of around 3.9% until 2021. In relative terms, the pressure on the Republic Budget referred to the debt service payment will vary between 10.2% and 14.2% of the annual revenues.

In the projection based on currencies, in 2018 the sol is representing a rate of 72% and 64% for the accumulated maturities for the next 4 years. In the same vein, loans at a fixed rate stands at 62% in 2018, and 81% stands for the next 4 years.

Maturities by Currencies and Interest Rates of the NFPS
(Million soles)



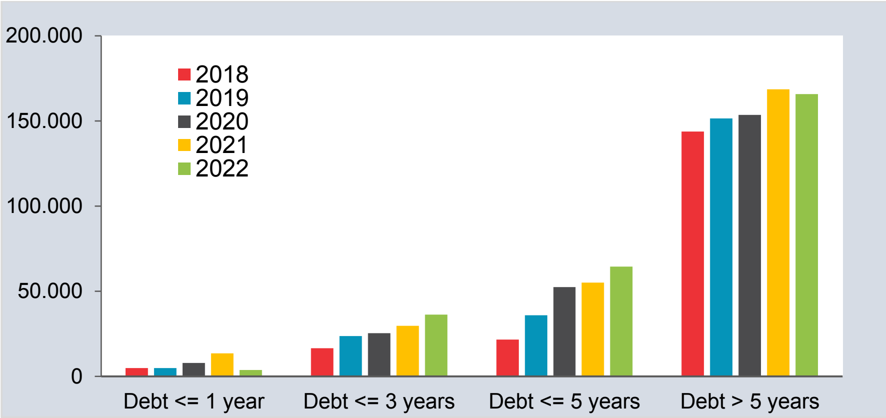


Source: MEF- DGETP

b. Projection about the gross debt composition by a residual term to maturity

The existing loan maturity structure and the loans that are expected to be gotten in the following years are still taking a greater interest in more-than-5 year terms; this concentration will be still a little higher in 2021. The effect of this structure is also seen on the public debt maturity profile.

Term to the NFPS Gross Debt Maturity
(Million soles)



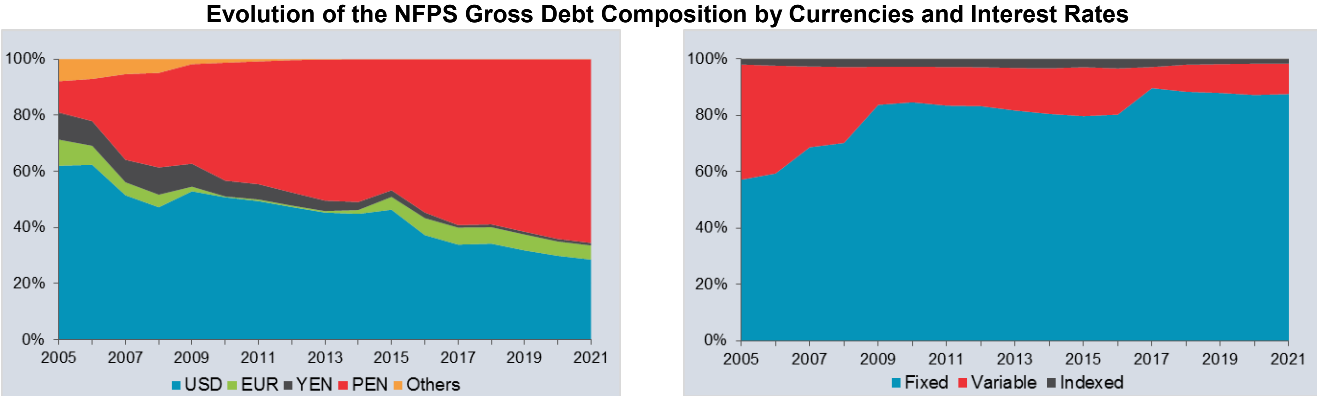
Source: MEF- DGETP

In the base scenario, the percentage of debt maturities being more of 5 years in December 2021 is around 75.4%, a relatively similar position to the one observed in the previous years. This situation will be explained by factors related to the sovereign bonds issuances that are expected to be made (reopenings), which includes financing debt management operations. Despite this, it is expected that the average to term maturity indicator will stand around 11 years at the end of 2021.

c. Projection about the gross debt composition by currencies and interest rates

The percentage of the domestic currency in the total gross debt would be around 65.5% at the end of 2021, higher to the rate of 2017. At end-August 2017, the said indicator attained to 61.7%.

Evolution of the NFPS Gross Debt Composition by Currencies and Interest Rates



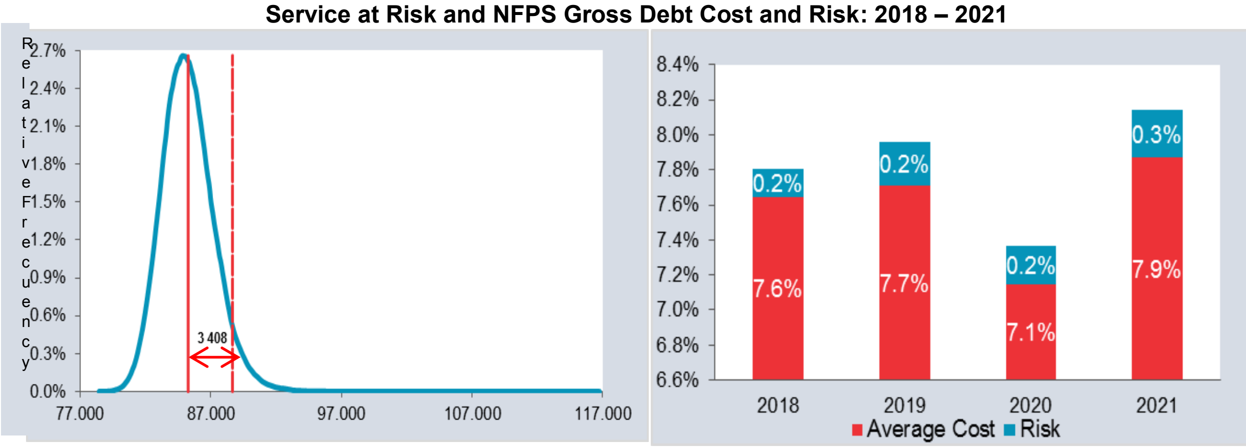
Source: MEF- DGETP

For the following years, the projection of the fixed rate component in the gross debt structure remains above 80% as of 2017, reaching around 85.9% at the end of 2021.

Gross Debt Service and Cost at Risk

The analysis of the Service at Risk (SeR)[23] indicates that the expected debt service for the next four years (from 2018 to 2021 inclusive), having a 95% of confidence, reaches around S/ 85,264 million. The risk coming from the interest rates fluctuations and the foreign exchange rates, which could involve a further expenditure concerning the expected service (calculated by the difference between the 95% percentile and the average), amounts for S/ 3,408 million (4.0% further to the expected debt service payment).

Service at Risk and NFPS Gross Debt Cost and Risk: 2018 – 2021



Source: MEF- DGETP

Furthermore, the gross debt annual average cost in soles can be defined as the debt interest payment plus the additional amount that might come from the effect of the changes on the foreign exchange rate and the interest rates.[24] The said additional amount, seen as risk, was computed based on the stochastic evolution of the interest rates and foreign exchange rates, as well as its joint correlation.[25] The probable increase in the cost due to changes in the foreign exchange rate and the interest rates accounted, on average, for 22 bp in the four years under analysis.

[23] This model assumes that every floating interest rates and the foreign exchange rates take a deviation of the geometric Brownian motion and they are both correlated. Based on this premise, an adequate number of Monte Carlo simulations of possible joint paths for these variables is created through which a distribution of the accumulated debt service in the selected period is built.

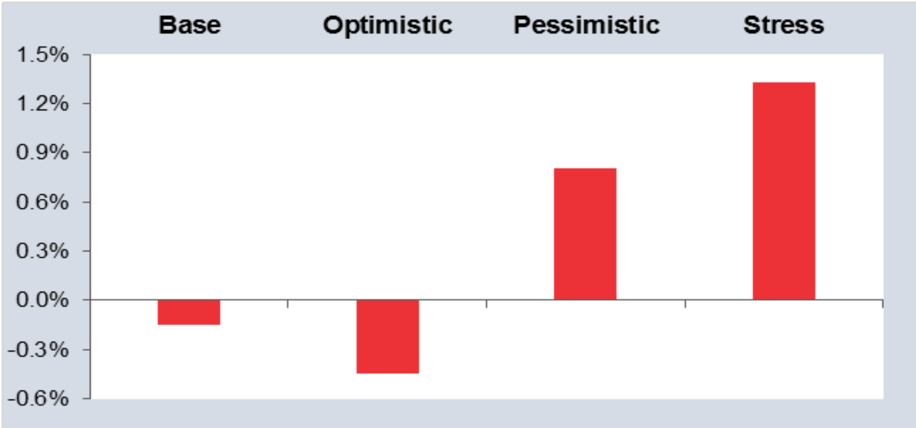
[24] This financial cost considers the growing evolution that might have the interest rates for those loans agreed at floating rates for the passive debt and the fixed rates for the new financing and the expected stability for the foreign exchange rate. This would lead to an increase in the debt cost for the following years.

[25] The financial cost risk in soles is defined as the difference between the maximum cost (95% of confidence) and the average cost.

Indicators for the gross debt deterministic sustainability

The analysis on the development of the NFPS public gross debt ratio of the Republic of Peru, based on the sustainability[26] indicator, shows that even if a lower GDP growth, lower fiscal revenues and adverse conditions for the financial variable prices in the next years are expected, a sustainable debt is seen in the base scenario and in the optimistic scenario. This is not the case for the other two scenarios.

Indicator for the NFPS Gross Debt Sustainability
(% GDP)



Source: MEF- DGETP

In accordance with these results, some debt indicators against the expected GDP for the following years have been estimated in relative terms in order to assess its budgetary feasibility. The debt balance is slightly growing until 2020. In terms of flows, they are growing during the whole period; in particular, in 2021.

NFPS Debt Ratios over the GDP
(% GDP)

Future Base Scenario	2018	2019	2020	2021
NFPS Debt/GDP	25.3%	26.2%	26.7%	25.8%
NFPS Service/GDP	1.9%	2.0%	2.3%	2.9%
NFPS Amortizations/GDP	0.7%	0.7%	1.0%	1.5%
NFPS Interest/GDP	1.2%	1.3%	1.3%	1.4%

Source: DGETP - MEF

In terms of the NFPS revenues that are expected for the following years, the evolution of the payment capacity is analyzed. On average, there is an upward trend for the debt balance, with the exception of the year 2019. There is an upward trend for the flows during the whole period under analysis.

[26] This indicator defines the difference between the balance primary surplus and the weighted average for the expected primary surpluses, as GDP ratios. The balance surplus is the one that ensures the constancy in time of the debt ratio. If the indicator is negative, the public debt is sustainable then (and, eventually, it is decreasing).

NFPS Debt Ratios over Revenues
(As a Percentage of the Revenues)

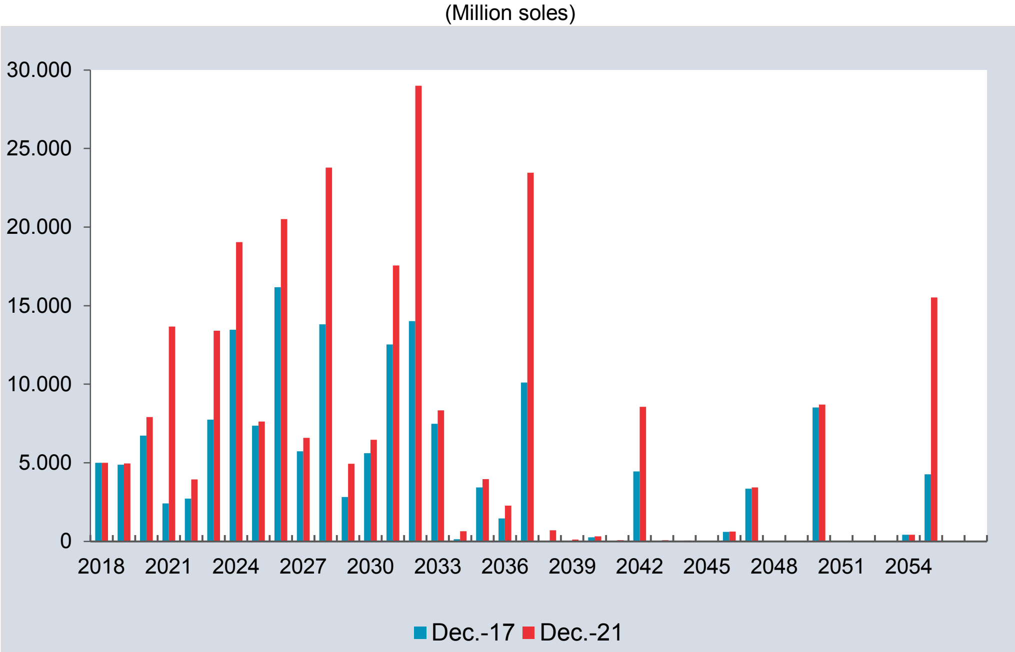
	2018	2019	2020	2021
NFPS Debt/Revenues	137.7%	137.9%	136.3%	127.5%
NFPS Service/Revenues	10.2%	10.1%	11.4%	14.2%
NFPS Amortizations/Revenues	3.6%	3.2%	4.7%	7.4%
NFPS Interests/Revenues	6.6%	6.8%	6.6%	6.7%

Source: DGETP - MEF

Another objective on the strategy is to improve the NFPS debt maturity profile in order to avoid payment concentrations in excess. The following graph shows the maturity profile under the new indebtedness scheduled for the 2018-2021 period to fund the financial requirements and the liability management operations that are expected to be conducted.

Although strong concentrations of liabilities are seen in some years on the profile, these can be refinanced easily if they correspond to the global and sovereign bond redemption (more than 80% are related to market debts). The difference comes from the indebtedness that is supposed to be being conducted to fund large infrastructure projects that are, at present, in the portfolio.

Projection of the NFPS Gross Debt Amortizations
(Million soles)



Source: MEF- DGETP