

3. MANAGEMENT OF THE DEBT PORTFOLIO AND RISK LIMITS

3.1. MANAGEMENT OF THE STATE'S DERIVATIVES PORTFOLIO

During the year 2015, the key determinant of management continued to be to minimise the foreign exchange risk of the IMF loan. These operations absorbed the lines provided by the counterparties.

Operations were carried out throughout the year that enabled loan to be almost entirely covered.

Table 5 – IMF Loan and percentage of unhedged foreign exchange risk

Date	IMF Loan SDR million	EUR Component SDR million	Other Currencies Component SDR million	Unhedged %
31/12/2014	22,942	9,704	13,238	38%
31/12/2015	16,363	6,120	10,243	2%

Source: IGCP

138 operations fx forward/fx swap were thus carried out, with a notional value of EUR 8.6 billion. In addition, taking advantage of some volatility in the forex market, 27 fx forward/fx swap early settlement operations were made, making capital gains possible.

With regard to cross currency swaps (CCIRS), the prepayments corresponded to the cancellation of the coverage in USD for partial prepayment of the IMF loan (see box IMF Prepayment) and the occasional buybacks of EMTN issued in GBP maturing in May 2016.

In total, the notional amount of contracts involving derivative instruments reached EUR 9.4 billion.

Table 6 – Transactions with financial derivatives

New contracts		Early Settlement		Total	
No. Transactions	EUR million	No. Transactions	EUR million	No. Transactions	EUR million
138	8,646	27	320	165	8,966
0	-	4	385	4	385
138	8,646	31	704	169	9,350

Source: IGCP

At the end of 2015, the derivatives' portfolio for interest-rate hedging included outstanding contracts with a notional value of EUR 15.7 billion. The positive change in market value from 2014 to 2015 reflects to a large extent the depreciation of the Euro.

Table 7 – Changes in the foreign exchange derivatives portfolio

	Nominal Value - EUR million				Market Value EUR million	
	pay leg		receive leg		Dec/14	Dec/15
	Dec/14	Dec/15	Dec/14	Dec/15		
CCIRS	- 12,623	- 11,269	13,857	13,624	1,199	2,463
FX-swaps / FX-forwards	- 2,037	- 4,441	2,158	4,512	117	59
Total	- 14,660	- 15,710	16,015	18,136	1,316	2,522

Source: *IGCP*

With regard to the interest rate risk, the purpose of *IGCP* for 2015 was to extend the average maturity and duration of the portfolio, which was in line with the strategy adopted by most other euro zone sovereign issuers, given the very low interest-rate environment.

This strategy was pursued through financing transactions and the modified duration of the adjusted portfolio increased from 5.67 to 5.87 over the year.

With regard to interest-rate derivatives, no new operations were carried out in 2015. The notional value of transactions was EUR 3.0 billion

Table 8 – Changes in the interest-rate derivatives portfolio

	Nominal value - EUR million		Market value - EUR million	
	Dec/14	Dec/15	Dec/14	Dec/15
IRS	5,915	2,915	108	140
Swaptions	500	500	- 154	- 139
Total	6,415	3,415	- 46	0

Source: *IGCP*

3.2. *EPR* PORTFOLIOS

As part of its duties in managing the State direct debt, *IGCP* is responsible for monitoring the debt and derivatives portfolio of public enterprises that are financed through the State Budget (*EPR* – State-owned companies within General Government)¹².

In this sense, the measures adopted by *IGCP* in relation to the debt portfolio of these companies have focused on controlling the financing costs. Throughout 2015, therefore, several opinions were drawn up on the contracting of new financing and the provision of guarantees of the Portuguese State, as well as on the revision of the financing interest rate of European Investment Bank loans.

Within the competencies assigned to it by Decree-Law No. 133/2013, *IGCP* was also responsible for the monitoring and management of the derivatives of *EPR*, in a context of consolidated management of risk.

In this context, 69 derivatives were cancelled in 2013 and 2 in 2014. In 2015, no derivatives were cancelled, but a derivative of Metro de Lisboa was restructured.

¹² Although Carris and STCP are outside the budget perimeter, their debt was taken over by the State, whereby its management also became the jurisdiction of *IGCP*

At the end of 2015 there were 29 derivatives in the *EPR* portfolios, with a negative market value of close to EUR 1.5 billion over a contract value of EUR 2.4 billion.

In this set of derivatives there are 6 snowball-type operations, with *Banco Santander Totta* as a counterpart, the validity of which is being discussed in the London courts. At 31 December 2015, the aggregate market value of these 6 derivatives was approximately EUR -1.1 billion.

Table 9 – Derivatives of *EPR* at 31 December 2015

(EUR million)	Number of transactions	Contract value	Market value (marked-to-market)
CP - Comboios de Portugal, E.P.E.	1	75.0	-1.3
Metro do Porto, S.A.	4	216.0	-542.0
Metropolitano de Lisboa, E.P.E.	19	770.2	-736.5
Parública -Participações Públicas, SGPS, S.A.	4	1,333.4	-218.0
TRANSTEJO - Transportes do Tejo, S.A.	1	27.5	-2.0
Total	29	2,422.1	-1,499.8

Note: The valuation of the counterparties is presented where available; otherwise *IGCP*'s valuation is given.
Source: *IGCP*

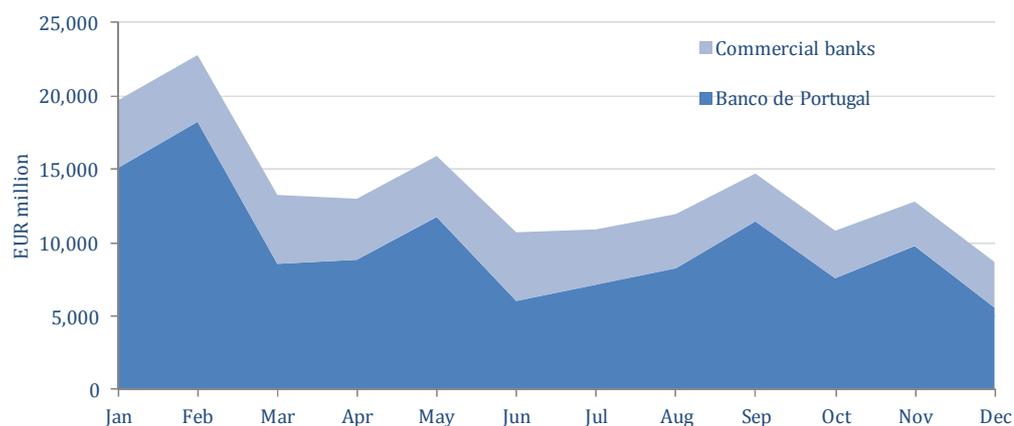
3.3. CASH MANAGEMENT

During 2015, the main objective was to ensure maximum liquidity in the State's cash balances. In this sense, from all the instruments theoretically available to manage liquidity, preference was given to deposits with *Banco de Portugal*.

The amount deposited in banks was limited in order to diversify credit risk. In order to minimise exposure to individual names, the documentation necessary to make deposits and other similar collateralised operations was prepared during the year, following current market practices. New guidelines to manage the cash surplus (or financial cushion) were also drawn up, which, if approved, will allow *IGCP* greater diversification of instruments.

The amount under management dropped during the current year, as shown in the following graph.

Graph 15 – Developments in the amount of deposits of the Central State Treasury



Source: *IGCP*

The table below presents three alternative estimates for the cash position's net cost over the past three years (following the methodologies presented in box 2.3 of the Annual Report for 2014). As can be seen, there was a significant drop in all of the methodologies, in line with the reduction of the debt financing costs and the cash balance. Nevertheless, considering the average financing cost obtained in this period in the market, discounted from the interest received from applications, the

net cost of the cash surplus amounted to EUR 210 million (or 0.1% of the average outstanding debt) in 2015.

Table 10 – Estimate of the cost of the cash position

Estimated cost of the Treasury cash position									
(EUR million)	Implicit rate total stock ⁽¹⁾			Average cost (BT+OT) ⁽²⁾			Average cost (BT) ⁽³⁾		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Average balance of deposits	16,621	17,377	13,856	16,621	17,377	13,856	16,621	17,377	13,856
Funding cost (%)	3.6%	3.6%	3.5%	3.1%	2.3%	1.6%	1.6%	0.5%	0.1%
Average cost of funding of the Treasury cash balance	602	630	479	517	403	223	258	82	8
Interest received from Treasury applications	-152	-61	-13	-152	-61	-13	-152	-61	-13
Net cost of the Treasury cash balance	450	569	465	364	342	210	106	20	-5
As a % of the average balance of deposits	2.7%	3.3%	3.4%	2.2%	2.0%	1.5%	0.6%	0.1%	0.0%
As a % of the average balance of the State's direct debt	0.2%	0.3%	0.2%	0.2%	0.2%	0.1%	0.1%	0.0%	0.0%
As a % of GDP	0.3%	0.3%	0.3%	0.2%	0.2%	0.1%	0.1%	0.0%	0.0%

⁽¹⁾ Implicit interest rate is computed as the ratio between interest of the State's direct debt paid on an accrual basis and the average debt stock in a given year (see section 2.3).

⁽²⁾ Funding cost of BT and OT corresponds to the average interest rate of new financing of BT (funded issues) and OT during the year.

⁽³⁾ Funding cost of BT corresponds to the average interest rate of new financing of BT (funded issues) during the year.

Source: *IGCP*

3.4. COST INDICATORS

On 31 December 2015, the market value of the total debt portfolio was EUR 240.9 billion, reflecting an 11.9 per cent premium in relation to its nominal value. The portfolio's average coupon went down slightly in 2015 to 3.51% while the average yield increased to 1.85%. The average residual term increased to 7.79 years.

Table 11 – Cost indicators¹³ at the end of the year

(EUR billion)	2012	2013	2014	2015
Outstanding total portfolio	175.7	186.7	201.8	212.2
Average coupon	3.46%	3.57%	3.61%	3.51%
Average yield	3.25%	3.25%	1.66%	1.85%
Average redemption period (years)	7.52	7.75	7.59	7.79
Market value	180.5	193.5	232.6	240.9
Premium (incl. accrued interest)	1.4%	2.1%	13.8%	11.9%

Source: *IGCP*

Marked-to-market cost

The provisional benchmark model was maintained in 2015. Under this model, active debt management operations carried out by *IGCP* are included in a separate portfolio whose mark-to-market assessment is used to measure the performance of *IGCP*'s active management.

In 2015, the marked-to-market cost of the Adjusted Debt Portfolio¹⁴ was 2.10%. A cost of 2.06% was calculated for the benchmark's portfolio in the same period, resulting in an unfavourable cost differential of 4 basis points.

¹³ The average coupon is calculated by annualising the accrued interest between the last two working days of the year divided by the outstanding for the last day. The premium indicator is obtained by subtracting the unit at market value without accrued interest divided by the outstanding balance. The average yield corresponds to considering an *OT* with maturity equal to the average amortisation period, which pays the average coupon annually and has a price equal to the market value, without accrued interest divided by the outstanding.

¹⁴ The Adjusted Debt Portfolio refers to all the instruments that make up the State direct debt, including financial derivatives, with the exception of promissory notes, retail debt and *CEDIC* and *CEDIM*.

Given the limitations in obtaining credit lines for long-term coverage, the available lines were used chiefly in foreign exchange hedging operations, which do not form part of the active management portfolio. Therefore, no new active debt management operations were contracted in 2015 whereby *IGCP's* performance is currently of little significance.

3.5. RISK INDICATORS

The Guidelines for the Management of Government Debt (Guidelines) identify the risk indicators considered most relevant for the debt portfolio and set limits to its exposure. The Guidelines set maximum limits to the interest rate risk (refixing profile and modified duration), refinancing risk, exchange rate risk and credit risk.

CaR – Cost at Risk

The CaR estimate of the debt portfolio quantifies the effect of changes in risk-free interest rates on the value of the charges associated with the debt portfolio, assessed on a cash flow basis in the relevant future time horizon. Absolute CaR is the maximum amount that the cash-flow cost can reach with 95% probability over the following year; CaR reflects the maximum deviation of this cost compared to its expected value.

Using the State Budget for 2016 to forecast the annual borrowing needs, the portfolio's position at the end of 2015, constant financing spreads and the various scenarios simulated¹⁵ for the swap curve dynamic, the expected value of the portfolio costs for 2016 (calculated on a national accounts basis) is EUR 7.6 billion. It is probable that only 5 per cent of this amount will exceed EUR 7.7 billion (absolute CaR) as a result of changes in risk-free interest rates.

The relative CaR for the same significance level is EUR 121 million. In relative terms and in comparison with GDP, the probability of the deficit-to-GDP ratio increasing by more than 0.07 percentage points in 2016 as a result of changes in risk-free interest rates is lower than 5%.

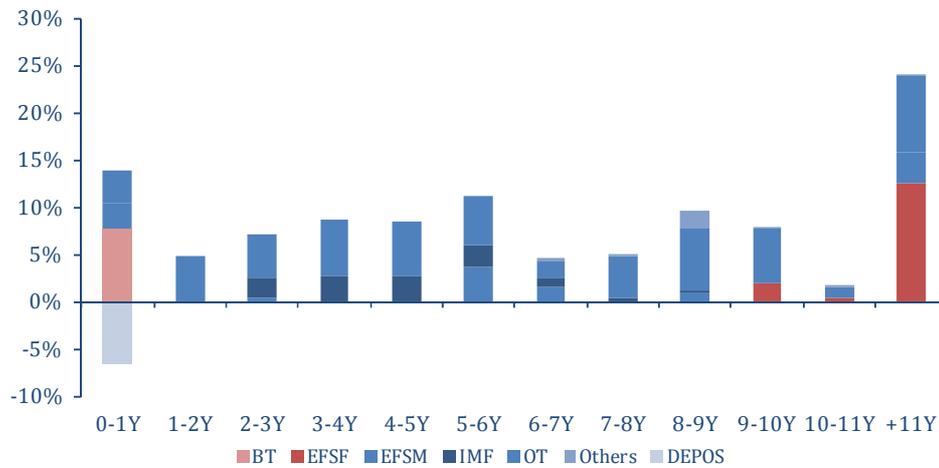
Refinancing risk

In addition to market variables (tradability, liquidity, maintaining a benchmark yield curve of the Republic, inter alia), the management of the debt portfolio takes into account the refinancing profile of the debt, so as to avoid an excessive concentration of redemptions that may lead to higher financing costs in the future.

The absolute limits set on the percentage of the portfolio maturing in a 12-month, 24-month and 36-month period are 25%, 40% and 50%, respectively. At the end of 2015, the adjusted portfolio had the following refinancing profile, complying fully with these limits:

¹⁵ To simulate the interest-rate scenarios the Nelson and Siegel model (1987) was used and the dynamic model proposed in Diebold and Li (2006) was incorporated.

Graph 16 - Refinancing profile of the debt portfolio at end-2015



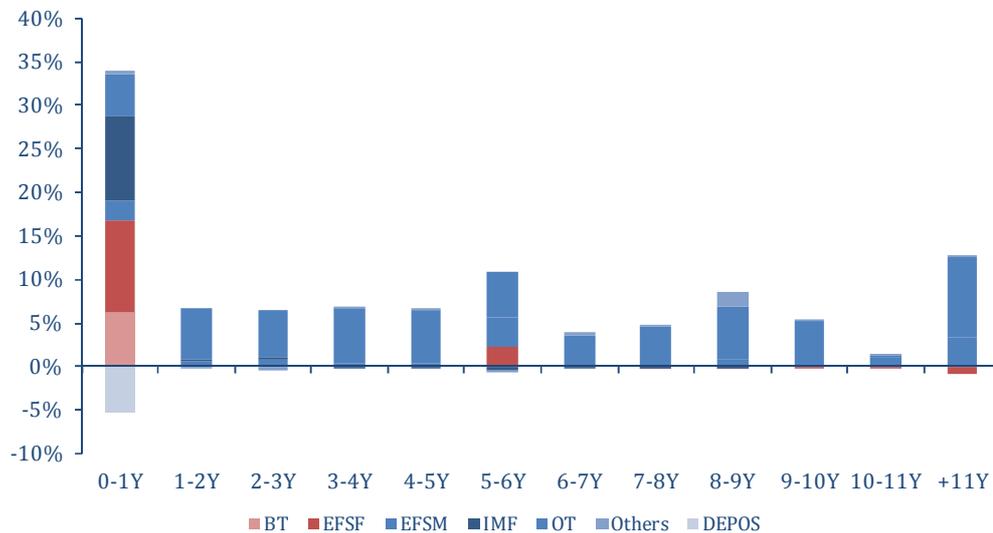
Source: IGCP

Interest rate risk

At the end of 2015, the modified duration¹⁶ of the total debt portfolio and the adjusted portfolio was 5.34 and 5.87, respectively. Throughout 2015, the duration of the adjusted portfolio was always higher than the lower limit (4.0).

At the end of 2015, the debt portfolio had the following refixing profile (i.e. percentage of the nominal value of the adjusted portfolio to the refixed or maturing, by term):

Graph 17 - Refixing profile at end-2015



Source: IGCP

¹⁶ The modified duration measures the elasticity of the portfolio's market value to changes in market yields.

Exchange rate risk

At the end of 2015, the primary currency exposure (excluding hedging operations) was 9.85% of the total adjusted debt portfolio, far below the 20% limit set by the guidelines. This exposure is the result of disbursements from the IMF's Extended Fund Facility that is denominated in SDR, corresponding to a basket of EUR, USD, GBP and JPY.

IGCP has been using currency swaps to hedge the exchange rate exposure. At year-end, the net exchange rate exposure of the adjusted debt portfolio after swaps was 0.16% and remained below the 10% limit throughout 2015.

Credit risk

The assumption of credit risk by the Republic results from operations involving derivatives, repos and money market applications. The Guidelines in force, approved by the Secretary of State, establish the diversification of risk and the limits of exposure assigned to each counterparty according to its credit rating, which are monitored on an ongoing basis.

The credit risk of each counterparty is calculated using the methodology which includes two components: its current market value, which represents the substitution value of each transaction plus an add-on, designed to estimate the potential change of that value in the future. The market value of the collateral received or delivered under the CSA should be subtracted from the amount resulting from the sum of these two components.

Throughout 2015, the credit risk exposure of the derivatives portfolio remained below the overall limit set at 3% of the adjusted portfolio. At the end of 2015, the exposure amounted to 0.43% of the value of the portfolio, i.e., that limit was occupied by 14.4%.

Table 12 – Risk indicators at year-end

(EUR million)	2012	2013	2014	2015
Primary foreign exchange exposure (% adjusted portfolio)	8.9%	9.6%	12.5%	9.85%
Net foreign exchange exposure (% adjusted portfolio)	5.6%	5.3%	3.6%	0.16%
Duration of the total portfolio (years)	4.40	4.68	5.24	5.34
Duration of the adjusted portfolio (years)	4.69	5.01	5.67	5.87

Source: *IGCP*