# Public Debt Management Guidelines



Analysis of debt management in 2008

#### Introduction

This document, as announced in the public debt management guidelines for 2009, outlines the achievements during 2008 in the management of public debt represented by Government bonds.

The issuance and management of Government bonds is the responsibility of Division II of the Treasury Department, which works in close dialogue and discussion with investors and other market participants in order to ensure coverage of the needs of the State sector in terms of costs that are acceptable in a context of limited exposure to market risks.

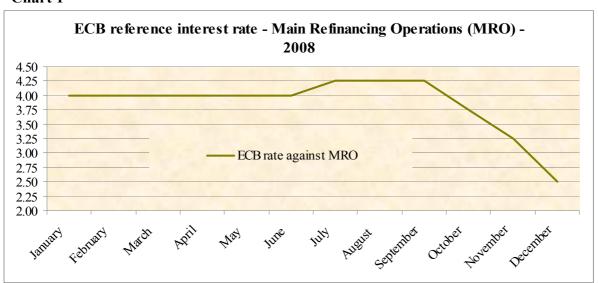
At the end of 2008 the stock of circulating Government bonds amounted to 1,356,207.50 million euros, up 5.25% compared to the end of 2007. In relation to the total debt of the General Government, at the end of 2007, that stock represented about 81%, which should not vary significantly at the end of 2008.

## 1. The market context

a) The development of bond markets and of euro area Government bonds in 2008

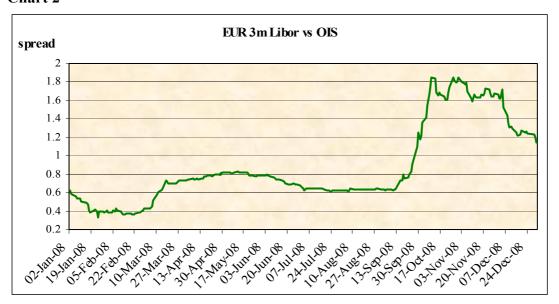
In the first half of 2008 the monetary policy regime in the euro area remained essentially restrictive to cope with an environment of rising inflation and at a higher level than the 2% objective announced by the ECB. In July, inflation in the euro area had in fact reached 4%, a rapid rise compared to 3.2% in January, pushing the euro area's monetary authorities to an increase in the rate of reference – applied to the main refinancing operations of the Eurosystem – to 4.25% (Chart 1), also in order to limit the so-called "second tier" effects (i.e. the transfer of higher energy costs to final prices).





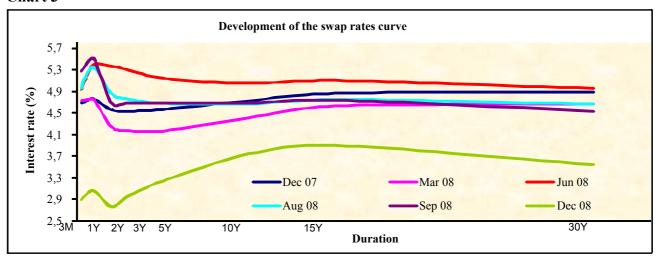
Money markets continued to reflect the confidence crisis on the interbank segment, with Euribor rates on different maturities below one year, far above the rates on EONIA swaps of the same period. If in fact during the first few weeks of the year until February the spread between the two rates for 3 month maturity was reduced by about 70 basis points arriving to 30, in the following months the situation had returned tense again, with the spread rising to 80 basis points in May and returning stable at around 60-80 basis points in September (Chart 2). The evident dislocation on the money markets, even though subject to continuous liquidity injections by the ECB to reduce it, has heavily influenced the shape of the european yield curve determining a clear inversion in the 3 month to 2 year segment for the whole period.

Chart 2



Although during the same period (January to September) in absolute terms, interest rates on the 2-30 year segment have not made very significant movements, the rate differential between these two maturities was strongly influenced by the choices of monetary policy: until March the 2-10 year spread gradually increased and then fell significantly after the stabilization of the expectations of a rate hike by the ECB, which actually occurred in July; the 10-30 year segment followed a similar behavior becoming also negative towards the middle of the year when the market had to suddenly readjust expectations about the choices of monetary policy from bearish to bullish (Chart 3).

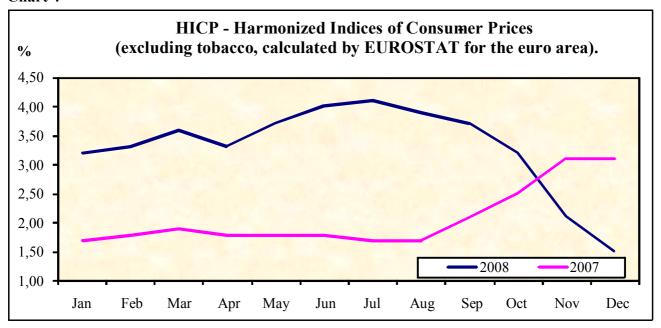
Chart 3



During the same period, market volatility, although with some breaks, remained sustained at the levels reached after the start of the sub-prime crisis (August 2007). This, together with the existing dysfunctions in the money markets, has helped make the euro area Government bond markets less liquid, leading to a progressive reduction in volumes traded.

By September, the international financial crisis had entered its most acute phase due to the failure of the investment bank Lehman Brothers Ltd, which was followed by assistance from the U.S. Treasury and the Federal Reserve to avoid bankruptcy of other important financial institutions. This resulted in a significant worsening of the conditions of money markets, with the spread between 3 month Euribor and EONIA swap contracts with the same maturity rising to over 180 basis points (Graph 2) there was an unprecedented increase in volatility in all segments of the financial systems and a substantial deterioration of credit to the economy. The European monetary authorities, in addition to a series of abrupt measures taken to counter a situation of substantial paralysis of the money markets, has given a very marked change to the monetary policy cycle, to significant and sustained reductions in the main refinancing rate bringing it down to 2.5% in December (Chart 1), also by virtue of the fact that the drastic reduction of energy prices and the stabilization of expectations about the impact of the financial crisis on the real economy was giving way to a fast and substantial fall in inflation in the euro area (which in just over 5 months went from 4% to 1.5% in December, Chart 4).

Chart 4



As often happens in these situations of an increase in the perception of systemic risk, in those months there was a sharp reduction in yields on all maturities in the euro area, but also sudden changes in the shape of the yield curve with abrupt increases of the slope when the process of fly to quality was most intense. This has certainly benefited all debt issuers in the euro area, who saw a significant reduction in the cost of market access, although obviously not in a uniform manner. Countries with a higher rating and better state of public finances experienced decreased yields on a wider scale, with a consequent widening of spreads with respect to lower-rated countries with less virtuous conditions of debt and deficit.

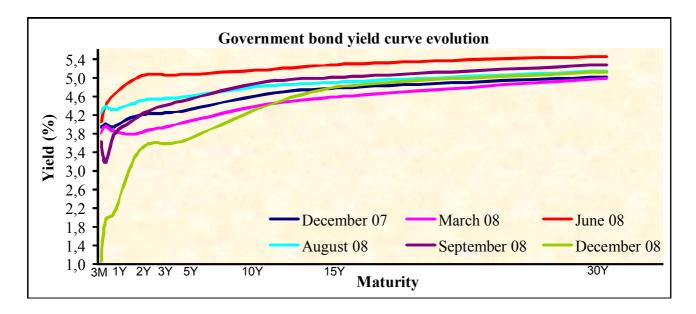
The crisis has instead very significantly affected secondary markets for Government securities of all euro area countries in terms of substantial reductions in volumes traded and further enlargement of the bid / ask gap. The main factors behind this phenomenon were and still are, on the one hand, the budget difficulties faced by most investment banks, which have led them to resize their trade and listing activities, and on the other, the inherent greater market volatility. In this context it has become objectively more difficult and expensive to sell and buy securities on secondary markets, thus rendering even the placement on the primary market more expensive and with higher complexity in terms of implementation.

# b) Performance of Italian Government bonds

Italian Government bonds, like most of the securities issued in the euro area were obviously affected by the consequences of the international financial crisis. In line with what happened in 2007, yields on securities remained stable or declined until March, when expectations of a bullish ECB policy became more consistent. From that moment on, all rates on securities of the short and intermediate part of the curve followed a trend of a sharp rise that was halted only in summer when the possible

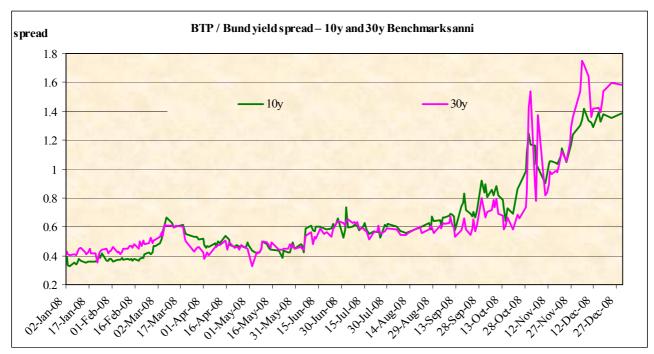
impact on the real economy of the financial crisis began to be perceived. The events following the month of September have obviously triggered an unprecedented rush to short term instruments issued by the Treasury, resulting in a massive reduction in market interest rates on those maturities. In December 2008, in fact, all rates up to 1 year were below 2% while on maturities beyond 10 years interest rates were in line with the end of 2007 as evidence of a significant repositioning of the operators to less risky instruments (Chart 5).

Chart 5



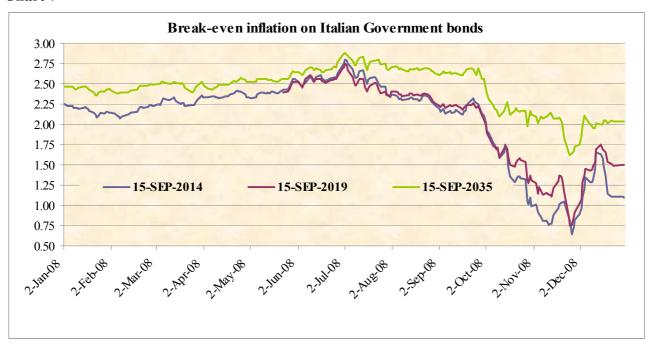
If an exception is made for a short period during the month of March, the yield spreads against Germany remained in line with levels of late 2007 until the month of May (Chart 6). In other words, until that month, the relative performance of Italian securities compared to the reference Government issuer in the euro area, Germany, has remained essentially stable. By June the spread had started a process of enlargement, which at a first stage was gradual and limited while later, with the worsening international financial crisis, it reached particularly high levels (in December 2008 the 10 year maturity spread was about 140 basis points while that for the 30 year segment reached about 160 basis points). Although in percentage terms (an increase of about 3 and a half times the levels of May 2008) this phenomenon was less than or at the most in line with what happened to all the other countries of the euro area compared with German securities. It represents undoubtedly one of the most important consequences of the changes that have invested the financial markets, especially as regards investors' risk appetite. On the other hand, the significant increase in volatility in the markets has not only helped to fuel this process of a gradual widening of yield spreads between EMU countries, but it has also significantly expanded the oscillations making details less significant.

#### Chart 6



The financial and then economic crisis has impacted other important segments of Italian debt. Regarding European Union-inflation-linked bonds, BTP€is, especially towards the end of the year, when inflation expectations were revised markedly downwards, the entire European bond market, including the Italian, suffered significant pain as a result of the portfolio choices of operators in sudden and significant outflow from this sector. The analysis of historic levels of break-even inflation on the main Italian securities of the sector can clearly highlight how, in parallel to the fall in inflation, measured month by month since July 2008, also inflation expectations embedded in these securities (if exception is made for the longer-term) have made a very pronounced decline that was halted only in December, when the market seemed to have found a new equilibrium level, in a general context of a market characterized by low and decreasing inflation.

Chart 7



Also the CCT (Treasury Certificates) segment was significantly affected by the crisis. One factor that has encouraged a strong decline of the courses during the period from September until early December was the sharpening of dislocation in the money market which, as mentioned above, saw a growing gap between interbank rates (e.g. EURIBOR) and those of more secure instruments such as EONIA swaps (the overnight rate) or short and very-short term securities issued by sovereign states, such as BOTs (Treasury Bills). Since CCTs are indexed to the performance of these at auction, in the European and national markets floaters are mainly characterized by the presence of instruments indexed to Euribor rates, inevitably arbitrage resulted in a downward repricing of CCTs that stopped only when tensions in the money markets started to ease in the last weeks of the year.

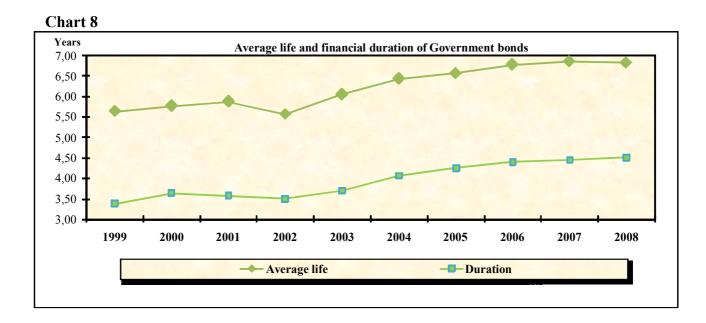
Even if in a particularly difficult situation, as that described in the previous section, in 2008 Italian Government bonds continued to provide satisfactory liquidity conditions with respect to those in other markets. In the stages of major stress the organizational structure of the secondary market and the choices of issuance policies allowed the full range of Government bonds to always be negotiated on the basis of quotations that were continuously present and executable. Despite the fact that the crisis has profoundly reshaped on the one hand the composition of participants in the market for Government bonds, with a strong reduction of the role of operators engaged principally in the lever, and on the other, has led to a thorough review of procedures and criteria for participation of other operators, even today the Italian market continues to be perceived as a market with lower trading costs.

# 2. Results achieved by debt management

# a) Evolution of cost and risks

The issuance policy implemented by the Treasury in 2008 has continued to seek to ensure the containment of exposure to the risk of refinancing and to the interest rate risk, taking into account the cost of debt servicing.

At the end of 2008, the figure for the overall average life of bonds (Chart 8), equivalent to 6.82 years, was confirmed in line with that at the end of 2007, of 6.85 years; the financial duration of debt stood at the end of 2008 at 4.51 years, up from the figure for 2007 (4.45 years) and confirming the gradual increase in recent years. Even the Average Refixing Period<sup>1</sup>, calculated in relation only to the domestic bond program, seems to confirm this trend: at the end of 2008 the indicator was equal to 5.63 years, substantially stable compared to that calculated at 31 December 2007 (5.66 years).

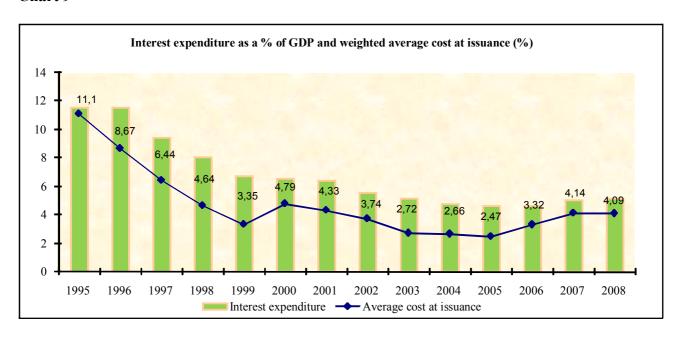


The weighted average cost of issues in 2008 (Chart 9) was calculated to be 4.09%, slightly lower than that recorded in 2007 (4.14%), but a slight increase compared to the average value of the previous five years. This is explained by the upward movement of the general level of interest rates that began in 2006 and continued until the first half of 2008. The overall effect on the cost at issue in 2008 is explained by the rapid reduction of yields in the short stretch of the curve, following the ECB's decision (and their expectations of the market) to cut interest rates in the last quarter of the year which was affected particularly by the lower cost at issue registered for BOTs, also following the sharp increase in demand, especially by retail customers.

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<sup>&</sup>lt;sup>1</sup> The Average Refixing Period (ARP) measures the average time in which debt coupons are refixed. For zero-coupon or fixed coupon securities it corresponds to the bond's residual maturity. For floating rate notes, it corresponds to the time until the next coupon is refixed.

Chart 9



#### The interest rate risk

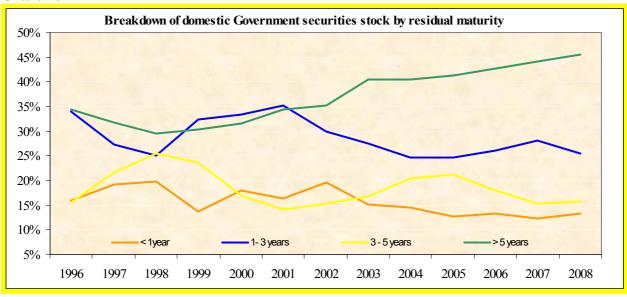
Estimates of the impact on interest expenditure of unexpected shocks in interest rates provide a good indication of exposure to interest rate risk, and the current estimates may be considered in line with those of 2007. The updated Stability Program of February 2009 confirms for this year the containment of the risk of exposure to fluctuations in interest rates, a result of the current Italian debt composition, and of the evolution of the total financial duration of debt and of the structure of payments for coupons and refunds. In fact, assuming an instantaneous and permanent increase of one percentage point of the yield curve, the impact on interest expenditure for the period 2009-2013, relative to GDP, would amount to 0.17% in the first year, 0.37% in the second, 0.48% in the third, 0.56% in the fourth. Compared to 2007, sensitivity to rates increased slightly in the first year of estimate (about 0.01%), thereafter the increase grew, albeit by a limited amount, going up to 0.13% in the fourth year. The increase can be explained both by decreased estimates of economic growth, namely the reduction of the estimate of the absolute value of GDP to market prices in different years, and by the growth of the expected absolute value of outstanding debt, which magnifies the impact on spending of a shock on interest rates.

#### The refinancing risk

Changes in the structure of debt by residual maturity at the end of December 2008 (Chart 10) confirm the upward trend in the share of debt with residual maturity of more than five years and the stabilization of the component in the very short term (maturities less than a year). The share in the medium term (residual maturity between three and five years) is almost unchanged compared to

2007 and reached the minimum levels recorded since 2000 (approximately 15%), while the number of short to medium term (residual maturity between one and three years) from a share of around 35% in 2001 has fallen steadily over the years reaching about 25% at the present.

Chart 10



## The exchange rate risk

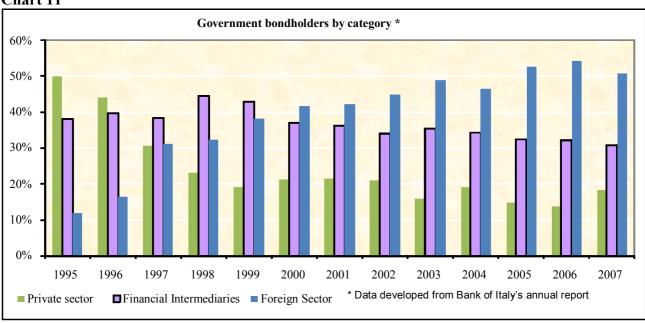
In continuity with the past years, the debt management policy has been geared to limiting the risk of exposure to exchange rates. Indeed in late 2008 in the share of securities issued on international markets, the components exposed to fluctuations in currency were equal to 0.17% which coincides with the figure for 2007.

## b) Debt distribution at an international level

In 2008, debt management was characterized, as in recent years, by the adoption of decisions aimed at ensuring and increasing the efficient penetration of Italian Government securities in portfolios of a broader audience of investors, diversified both by institutional types and geographical locations, in order to make the performance of debt even less susceptible to sudden local external shocks. Between 2006 and 2007 there was (Chart 11) a slight reduction of the stock of outstanding debt in securities held by non-residents, from 54% to 51%, mainly to benefit the resident private sector which has increased its debt ratio from about 14% in 2006 to 18% in 2007. The share held by institutional investors has remained almost stable at 31% (from 32% in 2006).

In the first nine months of 2008, analyzing the flow of trading reported by Specialists in Government bonds<sup>2</sup>, one notes, confirming the increased penetration of securities with international investors, the substantial reduction in the share of trade conducted with customers in Italy (from approximately 49% in 2007 to about 41% in 2008). At the same time there was an increase in trade conducted both with customers in Europe (from 44% to 48%) and outside of Europe (whose share rose from 7% to 11% approximately).





## c) Issuance policy for domestic instruments

The Treasury, from the month of October 2008, following the worsening of the financial markets after the collapse of Lehman Brothers and the difficult situation of illiquidity experienced in the secondary market, has seen fit to adopt a more flexible behavior in its issuance choices, while respecting the annual schedule of auctions. In particular, the issuer has reserved the right to place, next to the securities foreseen through the "regular" issuance program (on-the-run securities), one or more securities that are no longer running issues (off-the-run securities). The decision to issue multiple lines of off-the-run securities has resulted in not only reducing the pressure on offers of on-the-run securities, but in part also contributed to the standardization of some situations of tension and of mismatch on the secondary market, and of the repo squeeze phenomena. A further element of flexibility has been the introduction, for the placement of medium-long term securities (BTPs and

<sup>&</sup>lt;sup>2</sup> The Specialists in Government bonds at 31 December 2008 are: Bank of America Securities Ltd; Banca IMI S.p.A.; Barclays Bank PLC; Bayerische Hypo und Vereinsbank AG; BNP Paribas; Calyon – Corporate Inv. Bank, Citigroup Global Markets Ltd., Credit Suisse Securities (Europe) Ltd.; Deutsche Bank A.G.; Dresdner Bank A.G.; Goldman Sachs Int. Bank; HSBC France; ING Bank N.V.; JP Morgan Securities Ltd.; Merrill Lynch Int.; Morgan Stanley & Co. Int. PLC; Monte dei Paschi di Siena Capital Services Banca per le Imprese S.p.A.; Nomura Int. PLC; Royal Bank of Scotland PLC; Société Générale Inv. Banking; UBS Ltd.

CCTs), of the discretionary determination by the Treasury of the hammer price and of the amounts offered for auction within a previously announced range.

#### **BOTs**

In 2008 issues in absolute terms of BOTs were, for all maturities that characterize this instrument, higher than in 2007. However, at year's end, the BOTs' share of total outstanding debt remained essentially stable, rising from 9.96% the previous year to about 10.9% in 2008.

A more detailed analysis illustrates the changes that have occurred within the different types of BOT maturities. Issues of flexible BOTs, whose share of total domestic instrument issues increased from 3.42% to 7.02%, almost doubling, while the proportion of three-month BOTs slightly increased from 7.34% in 2007 to 7.65% in 2008. In contrast, from 2007 to 2008, the share of six and twelve month BOTs decreased from 26.67% to 24.82% and 18.71% to 16.60% respectively.

As hedging instruments of interim cash needs, the expansion of flexible and 3 month BOTs is due to the greater volatility of the monthly and daily cash requirements that characterized 2008. Nevertheless, the increase was also due to the increased demand from the market of short-term instruments, as a result of the financial crisis, which prompted investors to buy securities with shorter maturity.

#### **CCTs**

The volumes of CCTs placed on the market in 2008 were considerably lower than in 2007, continuing their downward trend as a share of all Government bonds issued, having fallen from 5.22% in 2007 to 3.59% in 2008. As of 31 December 2008 the stock in circulation decreased only marginally due to the limited amount at maturity (approximately 19.8 billion euros) during the year: in relation to total outstanding Government bonds in fact, was reduced from 14.79% in 2007 to 13.47% in 2008. During 2008, the sector has been significantly affected by the global financial crisis in terms of greater volatility, reduced courses and less liquidity on the secondary market. The Treasury, in continuity with 2007, has continued its commitment to ensure the efficient operation of the secondary market for these instruments. To achieve this goal it has implemented a policy based on regular auctions but of reduced amounts, on elements of flexibility in the auction such as the discretionary determination of the price and of the quantity offered, on diversifying the offer, with the decision to issue off-the-run securities, and, finally, on the conduct of various exchange operations that, together, have involved the repurchase of CCTs of an amount equal to about 5,000 million euros.

## **CTZs**

The Treasury, also in 2008, has regularly offered on the market 24 month CTZs. The share of this instrument as a percentage of total bonds issued in 2008 has slightly increased from 6.63% in 2007 to 7.13% in 2008. This is due primarily to higher issues compared to 2007 of around 7 billion euros, the result of a substantial demand, coming mainly from resident investors, which the Treasury chose to satisfy. Within debt composition, the share of CTZs stood at 3.45% in 2008, slightly above that of the end of 2007, equal to 3.34%.

#### **BTPs**

In 2008, total issues of BTPs, Treasury bonds, (nominal and linked) were higher than those of 2007, further reinforcing the centrality of this tool in the management of debt. During 2008, the proportion of BTPs as a percentage of total domestic issues alone amounted to 33.2% (about 32% in 2007), and amounted to 38.9% (35.9% in 2007) if we consider the total domestic issues net of BOTs with maturity of less than or equal to three months.

The Treasury, therefore, has increased the use of this tool in order to make the structure of its debt ever less exposed to the risk of interest rates.

## i) Nominal BTPs

Issues of nominal BTPs, although slightly increased, remained essentially in line with those of the previous year. In fact, the percentage of domestic issues increased from 28.33% in 2007 to 29.42% in 2008. However, the maturity profile offered to the market segment has changed: the three to five year segment has increased, going from a total of 15.18% of total domestic issues in 2007 to 16.28% in 2008. In the three year segment two new securities were offered, while in the five year segment the Treasury has not only offered a new benchmark bond, but also on many occasions, proposed the reopening of off-the-run securities with similar maturity.

The BTP segment with maturities of 10 years or more, remained on the whole stable compared to last year, going from 13.14% in 2007 to 13.13% in 2008 as a percentage of total domestic Government bonds issued. Looking at individual segments, one notes that compared to an increase in issues on the ten year maturity, gone from 7.7% in 2007 to 8.47% in 2008, offered evenly over the two halves, the fifteen and thirty year segment suffered a slight decrease compared to 2007 as a percentage of total domestic issues, from 5.44% in 2007 to 4.66% in 2008.

In particular, in the month of April a new 15-year benchmark bond issued on the market through syndication was launched. Despite the difficult overall market, the new security quickly achieved very strong demands, especially from institutional and real money investors. Moreover, the placement was done under conditions that were fully in line with the levels expressed by the market and with a very positive allocation both in terms of geographical distribution and by type of investor.

Finally, the thirty year segment, though the one that has most suffered the adverse conditions of the financial markets, which prompted investors to turn to the securities of countries with higher credit quality and / or a shorter time span, has seen several reopenings of benchmark securities, and in November of an off-the-run, mainly to normalize a squeeze situation that had arisen on the secondary market.

The Treasury has been able to issue regularly on the fifteen to thirty year segment, and, taking into account the major issues on the ten year segment (also offered in exchange operations), has managed to secure stable issues over the entire long term segment.

#### ii) BTP€is

In 2008 the Treasury placed a volume of around 18 billion euros of Eurozone-inflation-linked bonds on the market. Although increased compared to 2007, this amount, with respect to all domestic issues, accounted for 3.39% against 3.89% in 2007. In the month of May a new 10 year benchmark was issued through placement syndication, the 2019 BTP€i. This issue, which has further completed the real curve of Government bonds, took place in an unfavorable context, but nevertheless

immediately found the response of investors, with a strong presence on the part of banks and pension funds, which prompted the Treasury to increase the nominal amount originally offered from 3,000 to 4,000 million euros. During 2008, issues of real securities were regular and stable with a constant presence on all the maturities in relation to demand expressed by the market. This was in order to pursue goals of efficiency and transparency in that sector so as to ensure proper diversification of the composition of nominal / real debt.

## d) Issuance policy of foreign currency securities and private placements

The Global Dollar Issuance Program is the main channel of access to international markets by the Italian Treasury and focuses mainly on operations in U.S. dollars. It requires the commitment of leading international banks to quote the securities issued in the program on the trading desks dedicated to U.S. agencies, in order to ensure maximum liquidity.

Through this debt program the Treasury has set out to achieve two primary objectives:

- to diversify the investor base of Italian Government securities;
- to contribute, through a more detailed policy of issuing, to the containment of costs and of the risk of refinancing for the Republic.

A benchmark security in dollars was issued in 2008 for a notional 2.5 billion, with maturity on 15 July 2011 and a coupon of 3.5%. The amount was increased from 2 billion to 2.5 billion to meet demand from high profile institutional investors. Investors participating, in the large majority central banks, have ensured a homogeneous distribution of the security. In particular, a breakdown by type of investor sees the important role of central banks (75%), followed by asset managers (20%), insurance companies and pension funds (5%). The geographical distribution of the security was: in Asia for 37%, Europe for 35%, 20% in America and for the remaining 8% in the Middle East. The success of the operation was also confirmed by the positive performance after placement on the secondary market.

The worsening of the financial crisis, particularly in the second half of 2008, has led, among other consequences, to the deterioration of market conditions increasing volatility in the face of reduced liquidity.

To complete the Treasury's traditional issuance during 2008 some private placements were carried out, to arbitrage the corresponding maturity noted on the BTP curve and in response to specific needs of investors' portfolios. The total amount of private placements made during 2008 amounted to approximately 700 million euros.

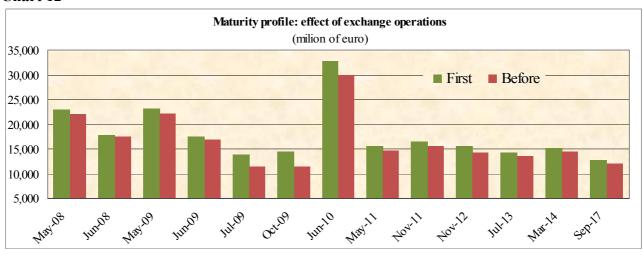
## e) The role of buyback and exchange operations reserved to Specialists

In 2008, the Treasury continued to use exchange operations as a tool for reducing the risk of refinancing, through a reshaping of the future schedule, the optimal management of cash flows and support of secondary market liquidity. During the year, four exchange operations took place, for a total of approximately 6.85 billion euros, with which bonds maturing between 2008 and 2017 were repurchased and BTPs with these maturities: 2012, 2013, 2017 and 2019, were offered. Note that, for the first time in an exchange auction, a BTP indexed to inflation was also exchanged.

Of the four operations conducted in 2008, two were made on the primary market, taking advantage of the new tender procedure managed by the Bank of Italy, and two on the secondary market, regulated by means of computerized trading.

However, in 2008, buy-back transactions were not carried out.

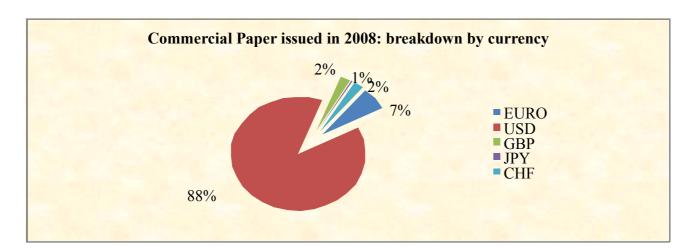
Chart 12



f) Cash management activities.

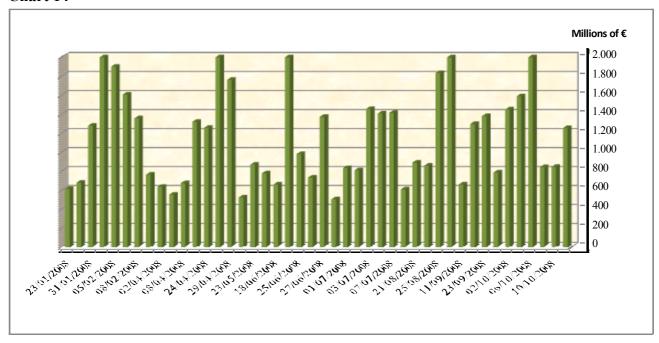
Besides the aforementioned use of flexible and quarterly BOTs, in 2008 cash management activities continued also through the use of Commercial Paper. In detail, CP was issued in euros, dollars, pounds, yen and Swiss francs – all converted into euros – for a total of about 10,352 billion euros.

Chart 13



To complete the set of tools for liquidity management, in 2008 44 operations were carried out on the money market, applied to the Treasury's availability account (OPTES – Operations on Behalf of the Italian Treasury), with an average amount of money demanded for collection by the Treasury per operation, of approximately 1,160 million euros and an average ratio between supply of the Treasury and demand by operators equal to 2,266.

Chart 14



# g) Debt composition by instrument

Although there have been no substantial changes compared to 2007, the composition of debt in late 2008 confirms a slight accentuation of some of the dynamics already in place in 2007, while others seem to have changed during the year. In fact, the structure of the debt at the end of December 2008 (Chart 16) compared to that at the end of December 2007 (Chart 15), highlights the stability of the share of fixed-rate securities, a slight increase in short-term components (BOTs and flexible BOTs) and a further reduction of the variable rate component (CCTs), as well as of the foreign share. Moreover, the growing trend for the component indexed to European inflation is confirmed, although the increase, which occurred in 2008 compared with the previous year, was lower. The profile of the stock of securities issued domestically can summarize these trends (Chart 15). In the medium term the chart enables us to perceive the gradual reduction in the variable rate proportion, the stability of fixed interest rate bonds (stable at around 67%), and the consolidation of the share of real securities.

# Chart 15

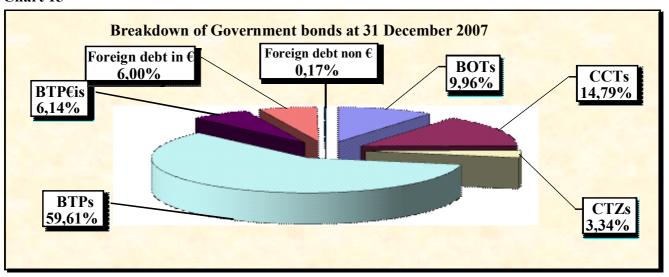


Chart 16

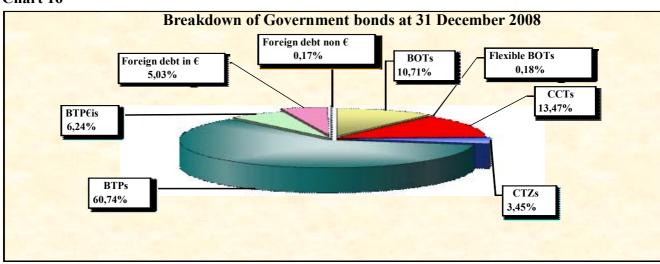


Chart 17

