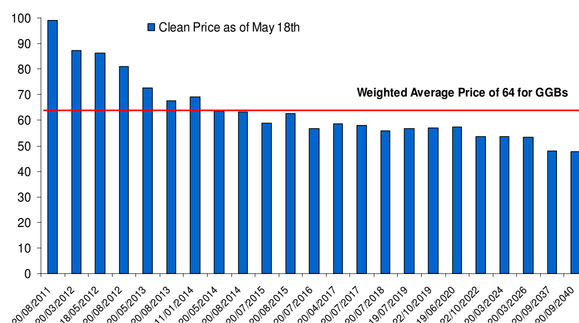
Greece: What Does Soft Reprofiling Mean?

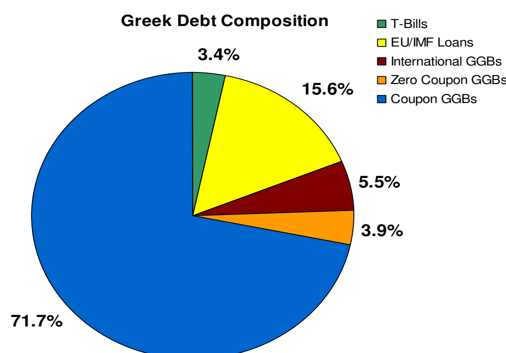
- **After the EcoFin meeting it became clear that, once again, EU authorities are split into two camps: the "soft debt reprofiling" camp and the "no restructuring of any kind" camp.**
- **In our view, the key question is not whether there will be some kind of restructuring, but rather when it could take place and what its scale might be.**
- **We have always believed that any aggressive restructuring scenario involving haircuts is very unlikely before 2013. Despite weaker evidence for contagion lately, Europe is not in a position where Greece would be treated as an isolated phenomenon.**
- **For that reason, our focus in this note is to try to shed some light on what a "soft" debt reprofiling could mean, how it could be achieved and what would be the implications for GGB investors in NPV terms.**

Chart 1: GGB Current Prices



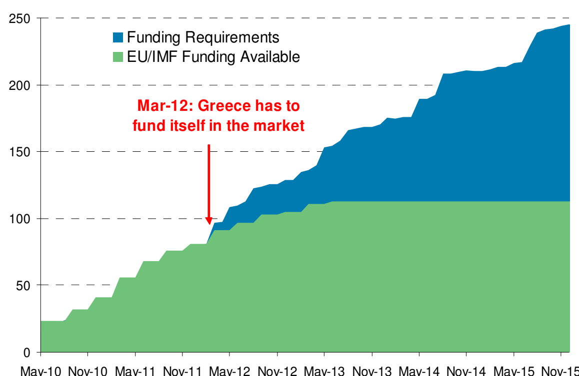
Source: Bloomberg, BNP Paribas

Chart 2: Greek Debt Composition



Source: Bloomberg, BNP Paribas

Chart 3: Greek Funding Ahead – Return to the Markets in March 2012



Source: IMF Official Review, BNP Paribas

Mixed signals from the EcoFin

For almost 18 months we have been living in an EMU debt crisis environment and still EU leaders have not managed to speak with one voice and express a strong view shared by all member states. If you recall, all this started in Q1 2010 when EU member states could not agree on whether to involve the IMF in any potential bailout of a euro member state. France and Germany were in different camps back then: it took several weeks and a meeting between President Sarkozy and Chancellor Merkel for the situation to be resolved. This same pattern has been evident in all the critical meetings we've seen so far in Europe – including this week's EcoFin meeting, where again there were two camps.

In the "debt reprofiling" camp, Olli Rehn said "*reprofiling could be examined*", while J.C. Juncker added that the EU authorities "*will see if soft restructuring is possible for Greece*" and that the "*Greek debt level is unsustainable right now*". On top of that, the German finance minister, Schaeuble, said that "*if debt is unsustainable, private sector involvement will be compulsory*".

In the "no restructuring of any kind" camp, Christine Lagarde said "*rescheduling and restructuring are off the table*", a view most ECB members share. Juergen Stark said "*a Greek debt restructuring is not the appropriate way forward – it would create a catastrophe*", a view expressed by Lorenzo Bini Smaghi in the past. The Greek government is also in this camp: its spokesman George Petalotis saw "*no reprofiling on the table, reforms is the only discussion*".

We believe that the right question to ask is not whether a restructuring (soft or of any kind) will take

place or not, but when could it take place. As we've written in the past, we assign a very low probability to any scenario involving a "hard" restructuring (by that we mean any non-voluntary operation that includes heavy haircuts) before 2013. The main reasons are:

1) Greece is not in a position to be excluded from the markets (a direct consequence of such a restructuring) since it still runs a primary deficit and needs external funding.

2) Contagion forces could re-emerge in such a scenario. EU authorities would not like to see contagion from a Greek restructuring spreading to other members in southern Europe.

3) It would have dire consequences for Greek banks, which hold around EUR 55bn of GGBs.

For all these reasons, the analysis that follows will focus on what a "soft restructuring" means, how it might be achieved and what would be the effects on the Greek bonds.

The concept of soft restructuring

The term "soft restructuring" or "soft reprofiling" appeared for the first time in this week's EcoFin meeting and looks set to be centre stage for the coming months. This is in line with our view that Europe is not yet in a position to handle an aggressive Greek restructuring and thus will only consider soft versions of it as the most likely scenarios. However, there is no official terminology in economic theory with respect to the distinction between a "soft" and a "non-soft" restructuring.

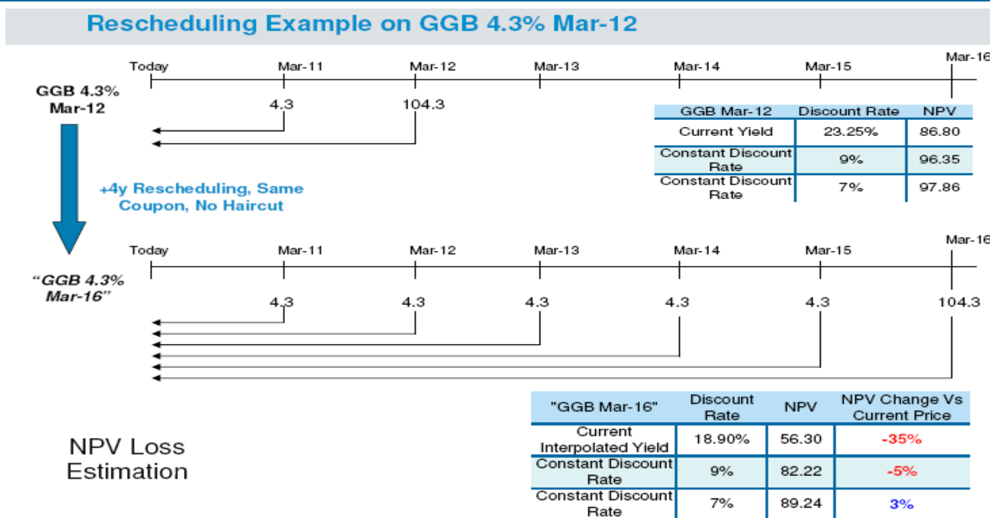
Our understanding is that, first of all, any kind of soft restructuring would: 1) be voluntary and 2) not trigger CDS via a credit event. On top of that, EU authorities would choose a recipe that does not lead to a crystallisation of the losses in the banking sector, where most GGB holdings are held in the banking book (not marked to market). Any other outcome would create additional problems for Greek banks.

Such solutions could include an extension of the maturity of the bond, a change of its coupon rate or a combination of both. A mild haircut could also be included, but we think that this is much more difficult to achieve on a voluntary basis and would also lead to some crystallisation of losses. On top of that, a solution involving haircuts could weigh on other peripherals, too, and accelerate the contagion effect.

This research note supplements the desknote we released a month ago ("*EMU Debt Crisis: Greece and Fears of Restructuring*", on 20 April). Back then, we highlighted why Greece needs to return to the market in Q1 2012 (see Chart 3) and why this is extremely unlikely. We also demonstrated some simple examples of debt rescheduling and what the impact on the Greek curve would be in each case. Most importantly, we stressed the importance of the discount curve (exit yield) that we used in the calculation of the NPV, and we talked about the sensitivity of this whole analysis to the exit yield that is being used. We encourage readers who missed that desknote to read it, as it is complementary to this research note.

As in that desknote, our bond sample will consist of all fixed-coupon bearing GGBs (non-international) with an outstanding amount higher than EUR 2bn. The total outstanding of these particular bonds is EUR 200bn, or 73% of all outstanding GGBs (see

Table 1: Example of a +4y Maturity Extension for GGB 4.3% Mar-12 and NPV Impact Considerations



Source: BNP Paribas

Chart 2 for the composition of Greek debt). We believe this sample is quite representative of what the total impact on the Greek curve would be. In any case, we believe that international bonds would be excluded in any reprofiling operation since they are not governed by Greek law (a disincentive to participate in any voluntary operation). They also include collective action clauses, which could lead to a triggering of the CDS, which is not in line with the idea of a soft debt reprofiling.

The importance of the exit yield

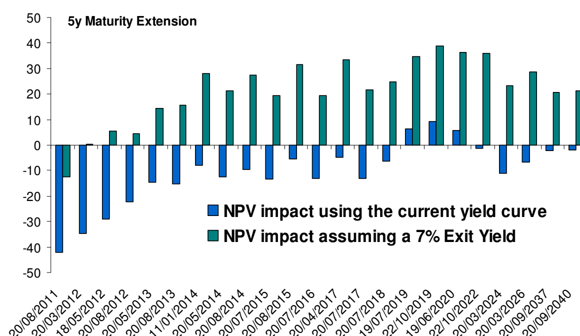
Once a debt reprofiling operation is completed, the market will have to re-assess and reprice Greek risk and adjust the Greek yield curve accordingly. Under normal circumstances, any operation that leads to some kind of debt relief, either by reducing coupons or extending maturities, should lead to a fall in yields. However, the Greek case is special as, even with a successful debt reprofiling, Greek debt would only be reduced in NPV terms and not in nominal terms, because haircuts are not considered part of the solution at this stage. This means that we might see Greek yields falling in the front end of the curve (although this will be a much less populated sector after the reprofiling) because the near-term funding risk will be reduced. But in the medium term, the market might still expect a more aggressive debt restructuring, probably when the ESM is in place after mid 2013. This is because the debt/GDP ratio will remain at excessive levels that many investors consider unsustainable. The upcoming IMF review in June will shed more light on the sustainability of Greek debt.

Chart 4 shows the importance of the exit yield for NPV calculations. It shows the NPV impact on each GGB under a simple five-year maturity extension scenario when using as a discount factor: a) the existing GGB yield curve and b) a constant exit yield of 7%.

It is clear that when using a 7% exit yield there are actually NPV gains for most GGBs since, despite the 5y maturity extension, there is a significant decrease from the current extreme level of yields to a 7% discount rate. In contrast, when using the existing Greek yield curve, a 5y maturity extension for the GGB Mar-12 is quite similar to an exchange of a GGB Mar-12 bond at a current price of 87 for a GGB 2017 bond whose price is around 57. Therefore, this results in a NPV loss of around 30 points (coupon considerations have to be taken into account as well).

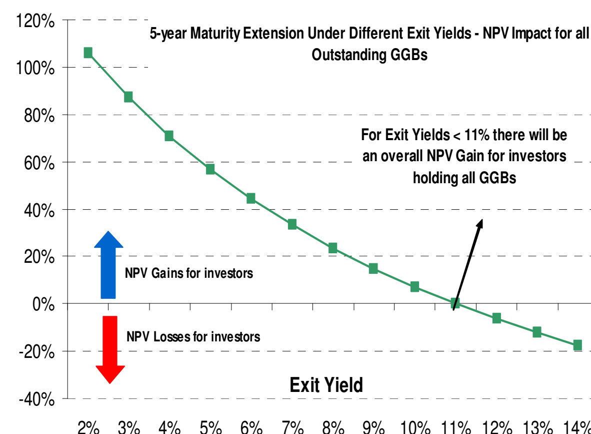
In Chart 5 we go one step further and present the average NPV impact on the overall GGB index (notional weighted average) under various exit yields (ranging from 2% - 14%) in a simple 5-year maturity

Chart 4: NPV impact under different discount factors a) using existing GGBs curve vs b) 7% fixed exit yield, in a +5y extension scenario



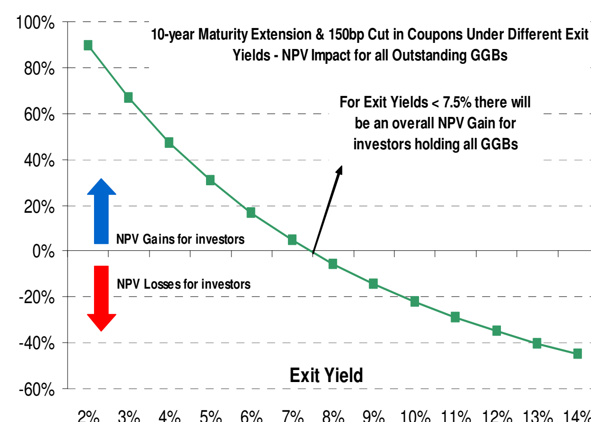
Source: BNP Paribas

Chart 5: NPV impact on all GGBs for different exit yields under a +5y extension scenario



Source: BNP Paribas

Chart 6: NPV Impact on all GGBs for different exit yields under a 10y extension and 150bp cut in all coupons scenario



Source: BNP Paribas

extension scenario. What this chart tells us is that, for exit yields below 11% (the current GGB weighted

average yield is 17.5%), there will be an overall NPV gain for investors holding all the sampled GGBs in their portfolio (similar to holding the index). For a less soft scenario of a 10y maturity extension, plus a 150bp cut in all coupons, we would need an exit yield below 7.5% to have an overall NPV gain for investors (Chart 6).

Intuitively this makes sense since the more aggressive the reprofiling is, the more positive the impact on debt dynamics and thus the bigger the decrease in Greek yields. So Greek yields would have to fall by 10% on average from their current levels in order to have overall NPV neutrality under this more aggressive scenario of a 10y maturity extension plus a 150bp cut in all coupons. Of course, this does not solve the problem of having some GGBs that will still have considerable NPV losses (front-end) and others that will have NPV gains (medium to long-end). In Chart 7 we try to prove exactly this point by showing the distribution of NPV losses/gains across the Greek curve in this more aggressive reprofiling scenario. Comparing Chart 7 with Chart 4, it is possible to estimate the bigger scale of NPV losses for all GGBs – and even more so for the front-end of the GGBs curve, which is quite sensitive to maturity extensions.

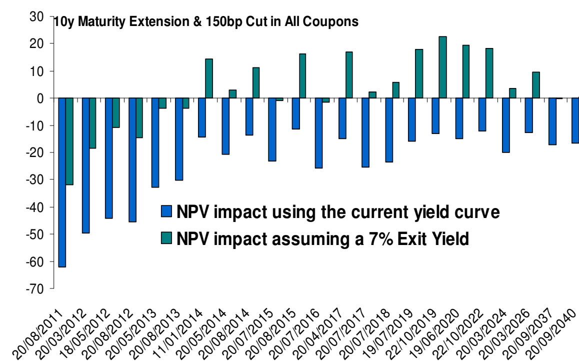
Gradual maturity extension scenarios

In this section, we look at scenarios where there is only a maturity extension – i.e., no coupon change and no haircuts. As was demonstrated in Chart 4, a simple maturity extension by 5y for all GGBs results in big NPV losses for 2012 and 2013 GGBs, and lesser losses for medium- to long-end GGBs. Of course, these are minimised if we assume a much lower exit yield of 7%, but this is quite an optimistic assumption at this point as the debt sustainability questions will remain. In order to tackle this problem and incorporate an idea of how each GGB will be affected, we introduce the concept of a gradually increasing maturity extension as a function of the current time-to-maturity of each GGB.

To stay in line with the idea of a "soft reprofiling" we look at scenarios that restrict the maximum NPV losses per GGB to 15bp under a worst-case scenario – i.e., when using the existing GGB yield curve. One scenario that accomplishes this is the following:

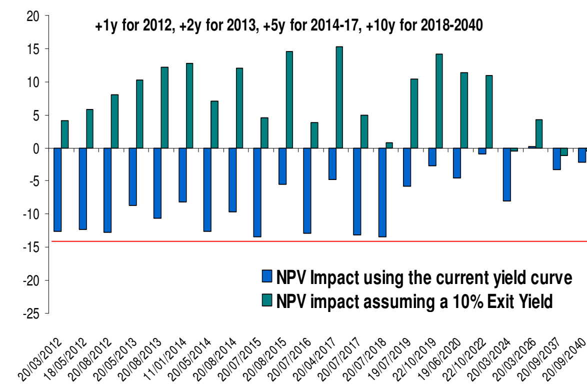
- Extend 2012 GGBs by +1y, 2013 GGBs by +2y, 2014-2017 GGBs by +5y and 2018-2040 GGBs by +10y. Since this is not a very aggressive scenario we use an exit yield of 10% as an alternative to the 7% we used before (always showing the NPV impact using the existing GGB yield curve in the same chart). Chart 8 shows the NPV impact on GGBs (we excluded 2011 GGBs since the most likely timing of such an operation is towards Q3-Q4 2011). Under

Chart 7: NPV impact under different discount factors, a) existing GGBs curve vs b) 7% fixed, under a 10y extension & 150bp cut in coupons



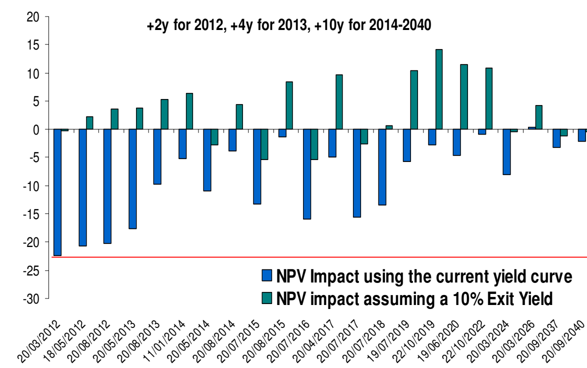
Source: BNP Paribas

Chart 8: Gradual Maturity Extension Scenario 1, Max NPV Loss < 15bp



Source: BNP Paribas

Chart 9: Gradual Maturity Extension Scenario 2, Max NPV Loss < 25points



Source: BNP Paribas

this scenario, we can restrict the maximum NPV loss for any single GGB to 14 points, while for the overall GGB index this becomes 8.4. When using an exit yield of 10% there is an overall NPV gain of 7.1

points! Most importantly, as Chart 8 shows, we have a smoother distribution of NPV losses across the Greek curve.

When looking at a slightly more aggressive scenario of restricting the maximum NPV loss per GGB to 25 points, we can do the following:

- Extend 2012 GGBs by +2y, 2013 GGBs by +4y and 2014-40 GGBs by +10y. The outcome of such a scenario is shown in Chart 9. The overall NPV loss is 10 points, while under an exit yield of 10% there is an overall NPV gain of 3.1 points.

The sole purpose of the scenarios above was to find a formula for maturity extensions that treated different GGBs more accurately than a general 5y or 10y extension across the curve. This was a mechanical way to demonstrate the sensitivity of each maturity bucket to an extension of the maturity of the bond. However, we should also think in terms of what the Greek government wants to achieve through this operation and not just the effect on GGB investors' holdings.

What does Greece want to achieve via reprofiling?

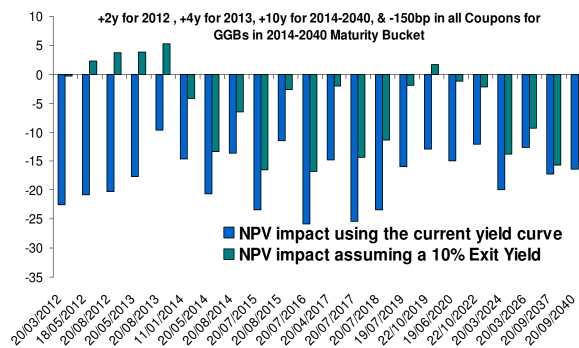
For the Greek government, there are three critical issues that could be addressed in three different ways of reprofiling the debt. A combination of the three, adjusted for the special sensitivity of each GGB maturity bucket to the proposed method, might be the best solution at this point.

1) Extend GGBs that mature in 2012-2015 so that Greece has time to demonstrate that state asset sales and fiscal consolidation measures can get the country out of the woods. For this to happen, the maturity extension for this sector of the curve must be at least 3y-5y. Since these front-end GGBs are quite sensitive to a maturity extension, their coupons should remain the same, or even increase slightly as a sweetener to the NPV impact from the extension.

2) Reduce debt servicing costs by decreasing GGB coupons. This could be done for GGBs that mature in the 2015-2020 bucket (39% of total). This is because these bonds are less sensitive to a simple maturity extension than the front-end bonds and less sensitive to a coupon decrease than the long-end bonds. These bonds could be extended by 5y in order to avoid massive redemptions in these maturities due to the rescheduled 2012-2015 sector. They could also incur a 100-150bp cut in their coupons. On aggregate, this would result in an NPV impact similar to the front-end GGBs.

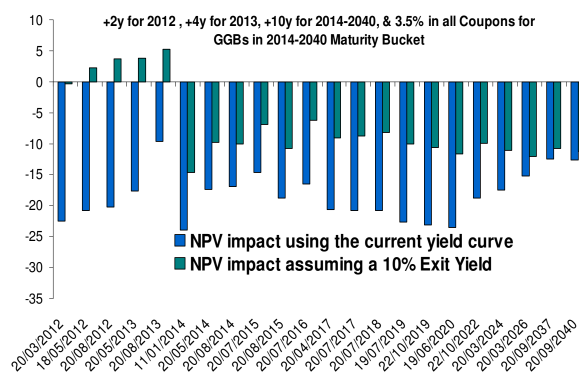
3) Decrease the nominal debt via small haircuts for those bonds less sensitive to a haircut – i.e., the longer-end bonds. This is the most extreme of the three methods as haircuts (even in a small minority

Chart 10: NPV Impact for Combined Maturity Extension & Cut in Coupons Scenario 1



Source: BNP Paribas

Chart 11: NPV Impact for Combined Maturity Extension and Cut in Coupons Scenario 2



Source: BNP Paribas

of GGBs) are not considered part of a "soft" reprofiling. But we would stress that if haircuts were considered, then the best candidates would be the long-end GGBs whose sensitivity to a haircut is lower due to the significant coupon income they earn until they mature. Also, a maturity extension of these bonds does not help Greece today as it makes no difference if Greece has to repay EUR 10bn in 2040 or 2050.

So, as each curve sector has a different sensitivity to different types of reprofiling, it would make sense for Greece to come up with a custom-made suggestion where each curve sector is restructured differently to achieve a smooth NPV loss distribution across the Greek curve.

Maturity extension and a decrease in coupons

Here, we present scenarios involving both a maturity extension and a cut in coupons, to demonstrate our previous point. We have chosen a maturity extension for short-dated GGBs since it is important that Greece does not have to return to the primary markets in the coming years. We also introduce a

combination of maturity extensions and a cut in coupons for medium-to longer-dated bonds so that debt-servicing costs decrease at the same time (we do not examine haircuts).

We keep the same maturity extension style as in the last scenario – i.e., extend 2012 GGBs by +2y, 2013 GGBs by +4y and 2014-40 GGBs by +10y. On top of that, we introduce a 150bp cut in the coupons for all bonds maturing in 2014-2040 and we try to keep the maximum NPV loss per GGB to 25 points when using the existing Greek yield curve for discounting cash flows to the present. The outcome of such a scenario is shown in Chart 10. The overall NPV loss for the index becomes 18 points, while under a 10% exit yield this becomes 6 points, compared with positive levels in the previous cases. In this scenario, the weighted average coupon of all GGBs under examination falls from 4.98% to 3.83%. That would save Greece EUR 2.3bn in interest-rate expenses a year, assuming it applies only to the GGBs we examine here.

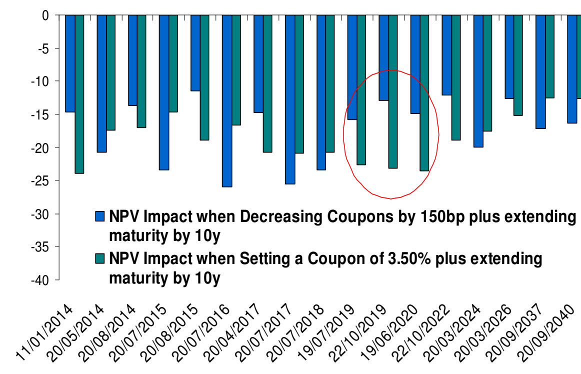
Another approach would be, instead of decreasing each coupon by 150bp, to assign a common coupon ceiling of 3.50% for all GGBs maturing in 2014-2040. In overall NPV terms, this would have a similar effect since it decreases the average coupon by a similar amount, from 4.98% to 3.72% (0.1% more than in the previous scenario). However, this has important implications for how each GGB is affected by this different coupon adjustment. Comparing Chart 11 (fixed coupons of 3.5%) with Chart 10 (cut in coupons by 150bp) shows why. High-coupon bonds such as Jul-19, Oct-19 and Jun-20 are penalised much more in the second scenario than the first. In contrast, low-coupon bonds such as Jul-16, Jul-17 and Jul-19 are penalised much more in the first scenario than the second. Chart 12 compares the effect on NPV of these two ways of decreasing coupons for bonds maturing in 2014-2040 (using the existing Greek yield curve for discounting).

This different sensitivity to different ways of reducing coupon expenses leaves room for relative-value trades on the Greek curve. For example, you could buy a high-coupon bond versus selling a low-coupon bond if you believe that either there is going to be only a maturity extension, or that there is going to be a decrease in the coupons similar to scenario one above (i.e. -150bp for all GGBs). As we are in uncharted territory, it is very difficult to forecast how a decrease in coupons would be achieved, since the benefit is the same for the Greek government.

Conclusion

In this note we have tried to demonstrate how each GGB will be affected by different types of debt reprofiling. We have shown how this depends on: 1) the bond's maturity and coupon characteristics and, 2) the discount factor or exit yield that will prevail after the reprofiling.

Chart 12: NPV Impact Under 10y Extension and Different Ways of Decreasing Coupons



Source: BNP Paribas

Most importantly, we have given a few examples of potential scenarios that: 1) try to smooth out the NPV impact across the Greek curve, 2) give Greece some extra time to prove it can fix its problems while simultaneously reducing interest-rate expenses, 3) achieve all these in a "soft" way – i.e., by minimising the NPV impact of each maturity bucket (although, as we have shown, this will mostly depend on the exit yield).

However, since we are talking about a voluntary operation, incentives and disincentives will determine the success or failure of such an attempt. If you are a GGB Mar-12 holder, for example, you will be aware that you are, in essence, not only long Greek risk but also European risk. Your negotiating power is therefore higher than if you only had to deal with Greece as counterparty. So you will need strong incentives to participate in a voluntary operation (and strong disincentives not to).

The main point is that these scenarios can only kick the can further down the road and give Greece extra time to prove it can improve its fiscal dynamics. The speed and efficiency of state asset privatisations will be critical. An extra loan by the EU/IMF would also help Greece further delay its return to the primary markets for funding. The next key month is June, when the IMF's review of the sustainability of Greek debt will be released.

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