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Article — Published Version

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Intereconomics

Suggested Citation: Belke, Ansgar; Dreger, Christian (2011) : Ramifications of debt restructuring on the Euro area: The example of large European economies' exposure to Greece, Intereconomics, ISSN 1613-964X, Springer, Heidelberg, Vol. 46, Iss. 4, pp. 188-196, <https://doi.org/10.1007/s10272-011-0382-7>

This Version is available at:

<https://hdl.handle.net/10419/88888>

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Ansgar Belke* and Christian Dreger**

Ramifications of Debt Restructuring on the Euro Area

The Example of Large European Economies' Exposure to Greece

The Greek government budget situation plays a central role in the debt crisis in the euro area. Strong consolidation measures need to be implemented, with potential adverse effects on the Greek economy and further credit requirements. Debt conversion might therefore become a reasonable alternative. The following paper provides some simulation-based calculations of the expected fiscal costs for the governments in the large European countries, Germany, France, Spain and Italy, arising from different policy options – among them a second Greek rescue package.

The Greek government budget is still in an ongoing crisis. The debt to GDP ratio, i.e. public debt expressed as a percentage of GDP, is above 150 per cent, while current fiscal deficits exceed 10 per cent. Due to the weak economic perspectives for the period ahead, financial markets doubt that the country will solve its fiscal problem in due time. Instead, the non-sustainability of the situation has led investors to demand huge risk premia for holding government debt. Prior to the crisis, markets as well as policymakers were unaware of the specific risks associated with particular euro area countries. In a short period of time, rating agencies have downgraded Greek government bonds to junk status.

Exactly for this reason, an international bailout started in May 2010 under participation of the EU, the ECB and the IMF.¹ Emergency loans of €110 bn for three years have been designed to help the country over a period of transition until it becomes credible once again. The bulk of this amount (€80 bn) is shouldered by the EU member states. A relatively high interest rate of 5 per cent for the main part of the loans has been retained. However, the consolidation plan, under which Greece is trying to meet the annual targets for cutting debt levels that have been specified in the multinational agreement, does not seem to be working. Despite the loans, Greece is struggling through a heavy recession and its debt burden is increasing even further. As higher public deficits in conjunction with a decrease in international competitiveness play a decisive role, the solution to the crisis will require drastic changes in economic and budgetary policies. An expansion of the tax base and the effective privatisation of public firms are envisaged and can improve

the social coherence of the austerity measures.² However, protests against privatisation, spending cuts and tax increases have been widespread and even turned violent in several regions. There is also strong resistance to the consolidation plans in parliament and the trade unions. What is more, there has also been a dramatic loss of Greek citizens' trust in the national government and parliament.³ One major shortcoming of the debate is the view that the country can overcome its crisis in only a few years. Greek bond yields are still exorbitantly high and the cost of insuring the debt is at record levels. For example, credit default swaps, i.e. the premia to insure against credit default for long-term government bonds, exceed 1000 basis points.

However, a solution to the crisis is urgently required.⁴ Otherwise contagion could lead to negative spillovers to other bond markets in euro area countries and could increase the pressure on governments in many states to contract their fiscal policies, risking a double-dip recession. An ongoing crisis might lead to an uncontrolled spiral and default that could trigger a whole range of events in other parts of the world, too.

- 1 G. P. Kouretas, P. Vlamis: The Greek crisis. Causes and implications, in: *Panoeconomicus*, Vol. 57, Issue 4, 2010, pp. 391-404.
- 2 P. Sklias, G. Galatsidas: The political economy of the Greek crisis – Roots, causes and perspectives for sustainable development, in: *Middle Eastern Finance and Economics*, Issue 7, 2010, pp. 166-177.
- 3 D. Lachman: Europe fiddles while its periphery burns, in: *Intereconomics*, Vol. 45, No. 6, 2010, pp. 353-356; F. Roth, F. Nowak-Lehmann, T. Otter: Has the financial crisis shattered citizens' trust in national and European governmental institutions? Evidence for the EU member states from 1999-2010, CEPS Working Document 343, Centre for European Policy Studies, Brussels, June 2011.
- 4 P. de Grauwe: The Greek crisis and the future of the eurozone, Brussels 2011, mimeo.

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A new consolidation plan could possibly push back the deadlines for meeting the budget targets, allowing the Greek economy more room to grow out of the trouble. One option for the bailout fund, the European Financial Stability Facility (EFSF), would be to buy bonds once they are issued. Starting in 2013, the European Stabilisation Mechanism (ESM) will replace the EFSF. Furthermore, the recent EU summit has agreed on a second bailout package for Greece, together with some measures of debt relief, such as longer periods to maturity and lower interest rates. In addition, the private creditors are involved, but only on a voluntary basis.

The current strategy of muddling through provides further credit and might help the country to solve some of its immediate financing problems. However, moral hazard problems are generated, as economic mismanagement is not punished. The seniority of official debt can invoke a vicious circle because it deters private creditors and leads to ever increasing spreads and a perpetuation of the absence of any access to private funding on a reasonable scale for over-indebted countries.⁵ Moreover, the long-term challenge to switch to a sustainable development by reducing government debt has not been properly addressed so far. Therefore, some form of restructuring may be inevitable at some stage.⁶ This must then be interpreted as a “political decision” since more and more analysts argue that there is not enough progress in Greece with respect to the adjustment programme.⁷ As a huge part of Greece’s debt is held by foreign investors at short maturities, bonds could also be swapped for longer maturities. The recent EU summit has made some progress in that direction, as the maturity of loans from the bailout funds will be extended (from 7.5 to 15 years, as the minimum). In general, a debt restructuring strategy comes with the risk of excluding Greece from international financial markets for a long time. However, this cannot be taken for granted. Instead, the main results of the academic literature on the topic underline the credibility enhancing impact of orderly debt restructuring in many cases. Countries have also been able to return to the market rather quickly after a restructuring. For example, Uruguay implemented a voluntary debt exchange with the private creditor community a few years ago and returned to the capital

market rather quickly. A convincing plan for debt conversion might also be an important element in a sustainable solution to the euro area debt crisis.

To shed some light on the policy options, this paper calculates government exposure to the Greek crisis in the large European economies, Germany, France, Spain and Italy.⁸ Scenarios are defined as representative examples. A preliminary calculation of the German exposure has originally been done by ourselves for the *Frankfurter Allgemeine Sonntagszeitung*.⁹ The main result is that a quick debt restructuring turns out to be preferable to a long lingering illness, at least if one is quite sceptical about the self-healing power of Greece. In the following, we go more deeply into the assumptions and calculation methods of this quite stylised though helpful simulation.

Assumptions and Calculation Method

In order to arrive at an estimate of the fiscal costs of the EU debt crisis, i.e. the German exposure to Greece, we assess several alternative scenarios with varying assumptions. In order to calculate the financial implications for Germany, we assume a German share of 27.9% of the total costs of the rescue package for Greece. This share corresponds exactly to the German participation in the (fully paid) ECB capital – Greece subtracted out. Accordingly, we apply shares of 20.9, 18.4 and 12.2 per cent to France, Italy and Spain respectively.

Both the amount of loans granted to Greece up to now and the fiscal costs of implementing the European Stability Mechanism (ESM), which from 2013 on will grant loans to troubled countries, enter our scenarios. In the first package, the EU has approved bilateral loans for Greece to the amount of €80 bn and Germany is responsible for 27.9% of them. Until today, €38.4 bn in loans have been disbursed, with the German share amounting to €10.4 bn. The ESM will follow the EFSF in mid-2013. The euro area countries will pay €80 bn into the ESM. Hence, for instance, the German taxpayer participates in the cash deposit to the amount of €22 bn (France: 16.3, Italy: 14.5, Spain: 9.5). This sum can be interpreted in the positive case as an insurance premium in order to safeguard the stability of the euro. Whether this deposit will be reinvested by the ESM and thus bear interest is still unclear. However, this could be taken into account quite easily in our calculations. Since the euro area creditor countries generally will have to bear the costs by incurring

5 Note in this context that Greek debt is to an increasing extent in the hands of public creditors such as the EU, the IMF and the ECB. Currently this already makes up around one third of it.

6 Note, for instance, however, that the ECB still expresses significant opposition to this option because it would trigger a credit event and, hence, might lead to significant negative spillovers elsewhere.

7 I call this a “political decision”, because a haircut bears the risk of leading to moral hazard problems in the sense that budget constraints are loosened for Greece and thus, via the signaling effect, for other over-indebted countries as well. However, we feel legitimised to argue that this problem seems to be manageable if the right set of measures is taken.

8 Italian banks have only marginal exposure to the periphery. Still, Italy will pay a significant sum to rescue the periphery countries.

9 L. Nienhaus: Was kosten uns die Griechen? Eine DIW-Studie von Ansgar Belke und Christian Dreger, in: *Frankfurter Allgemeine Sonntagszeitung*, 22.5.2011, p. 37, <http://www.faz.net/artikel/S30638/umschuldung-was-kosten-uns-die-griechen-30337827.html>.

additional debt, a zero sum game would tend to result with respect to the flow of interest payments.

New loans paid from 2011 on at the beginning of each year are oriented towards the actual de facto refinancing needs of Greece, which we calculate based on the numbers and figures provided by the “Plenum der Ökonomen”¹⁰ which are in turn based on CESifo data.¹¹ We add budget deficits within the Maastricht limits, i.e. the Maastricht deficits. At the end of each year, interest rate revenues accrue to creditor countries, assuming an interest rate of 6% for Greece, Ireland and Portugal.¹² All payments are discounted, i.e. we apply the present value concept based on the compounded interest. We use a time preference rate of 3% throughout our calculations. This choice closely corresponds to the results of microeconomic studies. If we choose a higher rate, the discounted payments are lower but the differences are not overly high.

We focus on the fiscal costs to large European economies only until the year 2015. IMF loans are senior throughout and were as a rule repaid in the case of other historical country cases. Hence, we do not take them into account in German exposure to Greece. According to our scenarios 1 to 3, Greece manages to raise privatisation proceeds of €5 bn per annum. In our simulations we call those “Greece’s own contributions”.

For our scenarios 4 and 5 we also complementarily calculate the costs for Germany including the ECB exposure to the Greek case. We take Germany as an illuminating example because it is often said to have an extraordinarily large exposure via the Bundesbank and the ECB to Greek debt. However, we do not include German Target2 claims as German exposure to Greek debt since their relevance is still heavily disputed. Concerning the current debate about Target2 we find it problematical that the opponents implicitly assume a constant amount of credit and money in the euro area economy. This would imply a zero-sum game: “Since Greece has received too much credit, Germany has been

granted too small a share of it”. Our view is that in cases of doubt the amount of money and credit is increased without much ado in order to solve this allocation problem. Inflating the euro area economy is most probably seen as the way out of the debt crisis.¹³ Quite surprisingly, inflation costs do not play any role in the current debate about exposure to Greek debt via Target2.¹⁴

However, we consider losses stemming from Germany’s exposure to the Securities Market Programme (SMP), the Emergency Liquidity Assistance (ELA) and to the normal liquidity enhancing refinancing operations. We take into account that the ECB has already purchased Greek bonds at a discount of roughly 20%, that collateral has to be marked at market value and that obligations to remargin are provided in the framework of normal refinancing operations.¹⁵

More concretely, in our scenarios 4 and 5 we assume the (debt) restructuring of 50% of the refinancing needs for the years 2011 to 2013 and the loans already granted under the rescue programme for Greece. In exchange for this, the refinancing needs for 2014 and 2015 are dropped. We assume the following haircuts: Greece 50%, Ireland and Portugal 30% each. What is more, we assume a 50% share for Greece and 25% shares for Ireland and Portugal in the bond purchases by the ECB. Within the ELA, we take into account that this programme is dominated by Ireland and hence assume a share of 80% for Ireland, 15% for Greece and 5% for Portugal.

In order to calculate the costs of the unconventional ECB monetary policy we start from the German exposure to Greek debt (“Haftungssummen”) presented in detail by Sinn.¹⁶ According to his assessment, the ECB has bought GIPS bonds to the amount of €26 bn in total. Imposing our tentative shares derived above, this scenario results in €13 bn German exposure to Greece, and €6.5 (= 0.25 times 26) bn exposure to each of Portugal and Ireland. Since ECB bond purchases were assumed to be enacted at a discount of roughly 20%, the effective haircut for Greece amounts to €13 bn times 30% (= 50-20), i.e. to €3.9 bn. Following the same logic, a haircut of 10% becomes effective for Portu-

10 Plenum der Ökonomen, 2011, <http://www.wiso.uni-hamburg.de/lucke/>. The “Plenum der Ökonomen” is a recently founded independent body of around 200 German economics professors. It is intended to tackle questions of extraordinary economic importance and to come up with clear conclusions after making formal decisions on them.

11 CESifo: Refinanzierungsbedarf der Länder Griechenland, Irland, Portugal und Spanien, CESifo, Munich 2011, <http://www.cesifo-group.de/link/special-euro-gips-refin.pdf>. We explicitly do not base our calculations on the amounts of loans allocated to Greece over time, i.e. five years. See <http://www.wiso.uni-hamburg.de/lucke/>.

12 It is important to note in this context that the IMF rate serves as a benchmark and the legal provisions for the choice of the interest rate to be paid by Greece incorporates the EONIA rate which is expected to increase within the next months. Hence, it does not make sense to talk about another interest rate cut for Greece as an additional option.

13 A. Belke: Als letzter Ausweg droht Inflation, in: Frankfurter Allgemeine Zeitung, 21.1.2011.

14 See, for instance, H.-W. Sinn: Target-Salden, Außenhandel und Geldschöpfung, in: Frankfurter Allgemeine Zeitung, 4.5.2011. For arguments not to consider Target2 claims in our context see The Irish Economy: Lending between national central banks, Blog, 2011, <http://www.irisheconomy.ie/index.php/2011/05/04/lending-between-national-central-banks>.

15 For an elaborated description see European Central Bank: The implementation of monetary policy in the euro area, 2011, p. 69, Box 7, www.ecb.europa.eu/pub/pdf/other/gendoc2011en.pdf.

16 H.-W. Sinn: Rettungsschirm für den Euro – Tickende Zeitbombe, in: Sueddeutsche Zeitung, 2.4.2011.

gal and Ireland in our “contagion” scenario 5. This implies a German exposure to Portugal and Ireland of €0.65 bn each.

With respect to the Emergency Liquidity Assistance (weights: Greece: 15%, Ireland: 80%, Portugal: 5%) the German total GIPS exposure amounts to €22 bn. This translates into a German exposure to Greece of €3.3 bn, an exposure to Portugal of €1.1 bn and an exposure to Ireland of €17.6 bn. ELA is dominated by support of Ireland as a quick view at the ECB balance sheet immediately shows. In contrast, the importance of Greece is rather low.

For reasons of simplicity, we include ECB losses by incorporating the necessary remargin by the German government when there is (partial) debt restructuring. However, there is also the possibility for the ECB not to remargin but to dilute the problem by bookkeeping tricks and simply to transfer less, or essentially no, profits over the years. The latter would be more complicated to model without leading to significantly different results than the economically plausible former variant.¹⁷

Business as Usual: Scenarios 1-3

To obtain an estimate of the cost of the crisis, different scenarios are examined. They lead to specific numerical results depending on the set of assumptions.

Scenario 1: Full Repayment

In this scenario loans are granted repeatedly within a period of 5 years and Greece is assumed to be able to return to the capital markets and repay all its loans immediately in 2015. We assume a Greek “retained amount” (own contribution) of €5 bn per year stemming from privatisation proceeds. Hence, Greece is assumed to be quite successful in selling state-owned enterprises, but only by half of the extent aimed at (€50 bn). The German taxpayer would be made liable for the Greek rescue to the amount of €14.9 bn. This appears to be quite cheap and the fiscal costs are mainly due to the implementation of the ESM. What is more, at first glance, scenario 1 turns out to be the cheapest variant. The German financial burden is higher than in other euro area countries. For example, this scenario would imply costs of €11 bn for France, €9.8 bn for Italy and €6.4 bn for Spain.

However, some critics – mostly defenders of the “business as usual” scenario – might ask why the fiscal costs of scenario 1 are still so high. The latter mainly results from the fact

¹⁷ The details of our calculations can be found in an EXCEL file under the following link: https://www.wiwi.uni-due.de/fileadmin/fileupload/VWL-MAKRO/team/belke/Belke_Dreger_Intereconomics_June_2011.xlsx.

that we regard the cash deposit in the ESM as lost since we assume that the ESM will become a permanent institution. The cash deposit is actually designated for the implementation of the ESM. The latter is a new institution which would not have been given birth without the EU debt crisis and, hence, has to be ascribed to the crisis. The euro area creditor countries can no longer dispose of the deposit, except in the case of a dissolution of the ESM. However, there could be interest paid on the deposit. In this case, however, costs resulting from additional loan-taking have to be counted against these potential interest gains. Hence, one could not pretend that the deposit can be paid from the abundant tax revenues. Instead, Germany, as an example, has to raise new loans for it. The opportunity costs of the deposit are huge. In any case, the German taxpayer is financially liable for it. For instance, as an alternative, the value added tax could have been lowered by a couple of percentage points in the large European economies considered here. But the discounted costs of the deposit represent no more than a level effect under the different scenarios. The assumption of a permanent ESM is not unrealistic even under scenario 1, according to which Greece will recover from scratch. This is because the public choice literature makes it generally plausible that there are ratchet effects in the existence of institutions. Once they are created, it will be quite difficult to get rid of them.

But our scenario 1 is no longer overly realistic (this view was valid at least until 3 June 2011, the day when the Troika quite surprisingly announced that Greece is on the right path to meeting its obligations within the adjustment programme). Or, as Thomas Mayer, chief economist of Deutsche Bank, puts it: “It would have taken a miracle for Greece to be able to return to the markets in the near future. Oil would have to be found in the Aegean Sea or something similar.”¹⁸

Scenario 2: “Soft Debt Restructuring” – 1/3 of EU Loans Will Be Paid Back

An intermediate scenario is that Greece will serve only one third of its refinancing needs. In this more realistic case, the costs for Germany will increase to €34.6 bn. The costs for France, Italy and Spain amount to €25.8 bn, €22.9 bn and €15.1 bn respectively. But this calculation also appears to be too optimistic since it assumes that privatisations are pushed through without any significant resistance. Moreover, “soft restructuring” might represent the worst solution of all with an eye to the fact that the ECB continues to lend against sovereign bonds of the defaulting country. This would clearly endanger the monetary policy framework of the ESCB and the reputation of the ECB. In addition, it would call into question further adjustment programmes in

¹⁸ L. Nienhaus, op. cit. (our translation).

Table 1
Fiscal Costs of Alternative Scenarios with One Rescue Package

(€ bn)

	Germany	France	Italy	Spain
Scenario 1	14.9	11.0	9.8	6.4
Scenario 2	34.6	25.8	22.9	15.1
Scenario 3	53.5	39.9	35.1	23.2
Scenario 4	35.3	26.3	23.2	15.3
Scenario 5	40.3	30.0	26.5	17.5

Source: Own calculations.

other euro area member countries and would risk pushing the banking systems in other insolvency-prone countries into difficulties. Given these dimensions, it seems legitimate to ask whether it would be better to proceed to debt rescheduling right away. Rapid debt restructuring could therefore be a reasonable alternative (scenarios 4 and 5).

Scenario 3: No EU Loan Will Be Paid Back

However, in recent months it has become more and more probable that Greece will not recover and will not pay back any loan from the first EU rescue package. Greece might default on the EU loans in 2015, i.e. on loans already disbursed and on the refinancing needs in the coming 4 years, i.e. the refinancing until 2015. In this case, the fiscal costs for Germany would amount to €53.5 bn. For comparison, the bill for France would be almost €39.9 bn, while Italy and Spain would pay €35.1 bn and €23.2 bn respectively.

Immediate Debt Restructuring: Scenarios 4 and 5

Scenario 4: Restructuring of Greek Debt

A haircut of 50 per cent is assumed, i.e. Greece can repay only 50 per cent of its old (€10.4 bn) and new loans (refinancing needs). To make things even worse, further privatisation is postponed. The loan default leads to high (static) fiscal costs for the creditor countries. However, Greece benefits from the restructuring. The country will at once be far less indebted, and after a short period investors will tend to trust it again as a debtor. At the end of 2013 Greece will return to the capital market and have improved growth perspectives which, in turn, make it more probable that Greece will repay its remaining debt. After a haircut on Greek debt, the evolution in Ireland, Portugal and Spain can be more quickly decoupled from Greece and contagion will be less probable.

Under these assumptions, the German taxpayers are required to pay €35.3 bn. French and Italian taxpayers will be responsible for €26.3 bn and €23.2 bn respectively. Finally, Spain will be confronted with a cost of €15.3 bn. The haircut is, therefore, not a cheap solution. Nonetheless, the option of debt restructuring is not necessarily associated with higher costs than the “muddling through” scenario – even if it is assumed under the alternative that Greece will pay back one third of EU loans after all in 2015 (scenario 2). In any case, the rescheduling has to be implemented rather quickly. The sooner it takes place, the faster it will be possible for Greece to pull itself together again, and the cheaper it will be for the German taxpayers. Note that we have not included the cost incurred by the ECB.¹⁹ “Whether the ECB will have to materialise its losses immediately is controversial. Many economists argue that the ECB could stretch the losses and just pay less or no profits to the national governments for a number of years.”²⁰

Scenario 5: Contagion Effects – Restructuring of Greek, Irish and Portuguese Debt

If Greek debt restructuring leads to increasing doubts as to whether the debt status of Portugal and Ireland is sustainable and whether their adjustment programmes will be credibly conducted in the future, this might lead to contagion effects in both countries. In the end, Portugal and Ireland might also have to reschedule as a consequence. In that case, the fiscal costs of the debt restructuring scenario rise substantially to €40.3 bn in the German case.²¹ The figures for France, Italy and Spain are €30 bn, €26.5 bn and €17.5 bn respectively.

Additional Costs and Benefits

The numerical results attached to each of the scenarios 1 to 5 have to be put into perspective. This is all the more necessary because what we present is a first tentative assessment based on overall plausible but simplifying and very broad-brush assumptions. In addition, we only address government exposure to Greece.

First, we do not discuss the long-run consequences of the specific scenarios, which might turn out to be rather different. For instance, the “haircut” represents a static cost which dominates the short to medium run and is emphasised in our calculations over 5 years. However, imposing a haircut might lead to dynamic gains in terms of significant

¹⁹ When we include the German exposure to Greece via the ECB, the costs for the German taxpayer increase to €42.5 (=35.3+3.9+3.3) bn.

²⁰ L. Nienhaus, op. cit. (our translation).

²¹ When we include the ECB cost channel as well, this sum increases due to contagion of Ireland and Portugal to €67.5 (=40.3+3.3+3.9+0.65+1.1+0.65+17.6) bn.

additional credibility of the Greek government as a debtor. Moreover, on the other hand, going for debt restructuring clearly represents a political decision if the impression arises that Greece is no longer willing to stick to the agreed adjustment programme. According to this view, imposing a haircut would be a bad sign because the lowering of qualitative collateral requirements for refinancing operations was made conditional on the strict implementation of the adjustment programme.

Second, continuing grants of loans and debt restructuring might have different distributional consequences – even if the total sum is the same under both alternatives.

Third, we do not take into account the exposure of German banks in the case of a “haircut” (scenarios 4 and 5) and contagion effects (scenario 5). The total exposure of German banks to Greece (which is generally assumed to be less than the French exposure) amounts to €25.4 bn – according to BIS and IMF data, fourth quarter 2010. However, more recent data indicate that French banks have already sold large amounts of Greek government bonds, resulting in a lower exposure than that of the German banks.

In the third quarter of 2010 German banks had loans to Greece to the amount of €19.3 bn on their books. They have granted €2.8 bn of credit to Greek banks. In Germany, the Commerzbank would be the bank most impacted by a Greek debt restructuring: at the end of December 2010 the group, via its subsidiary Eurohypo Greek, was the owner of sovereign bonds worth €2.9 bn. No earlier than March 2011, Deutsche Bank estimated its group-wide involvement in Greece at €1.6 bn, including investments by the recently acquired Postbank.

However, these figures do not cause unrest in the German banking sector – at least not in a visible fashion. At the end of April 2011, Deutsche Bank Chief Finance Officer, Stefan Krause, argued that Greek debt restructuring would have “no direct impact on the institute”. And Commerzbank CEO Martin Blessing did not tire of stressing during the recent shareholders’ meeting that the capital position of the bank is strong enough to cope with a haircut on Greek debt. The large unknowns in terms of involvement in Greece are two, in other respects old, players: the Munich-based Hypo Real Estate (HRE) and the Düsseldorf-based WestLB. In their balance sheets the Greek risk no longer appears. Both banks have shifted it to their respective bad bank. On the one hand this demonstrates their low trust in this investment. On the other hand, they have been successful in getting rid of the risk de facto – in doubt the government has to take the responsibility in the case of a default.

Admittedly, according to BIS data French banks could potentially be impacted more from a collapse of Greek banks and from a sovereign default than Germany, Italy or Spain. In June, Moody’s raised concerns about the exposure of BNP Paribas, Société Générale and Crédit Agricole to the Greek mess. This exposure is either through holdings of government bonds or loans to the Greek private sector and works directly or through subsidiaries operating in Greece.²² For instance, Crédit Agricole controls Emporiki Bank of Greece and Société Générale is the owner of a majority of the Greek lender Geniki Bank. The third of the French banks with a potentially larger Greek exposure, BNP Paribas, does not have a local unit in Greece. However, it is at risk from direct holdings of Greek government debt. However, the assumption for weeks has been that Paris has taken that stance to protect its banks and would not let Greek exposure materialise for the French banks (a view that was corroborated at the recent French-German summit in Berlin, after which French banks agreed to roll over 70% of Greek debt). What is more, we would like to stress that there was almost no exposure of the Italian banking sector (e.g. Intesa Sanpaolo). Finally, the exposure of Spanish banks (e.g. Santander) to Greece is also small. According to the recent EU summit, three options are made available to the private holders of Greek bonds to get involved in the new rescue package. There is a debt buyback with some loss, a rollover or a swap into new bonds, but only on a voluntary basis.

Seen on the whole, we thus feel legitimised to incorporate the exposure of the larger euro area countries’ banks to the Greek case only as supplementary information because in general the potential losses are no longer borne primarily by the German government except in the worst case and the Greek exposure of Italian banks is of only minor significance. In the case of a haircut of 50 per cent which is assumed in our calculations the probability seems to be quite high that the banks will have to bear tolerable losses. The reason is that the amount of the haircut has already been priced in the Greek bonds by many banks anyway and the financing of Greek banks has mainly been shifted to the ECB. It seems fair to state that there will not necessarily be a severe domino effect and contagion among euro area banks in the case of a haircut. Instead, the banking crisis should be manageable although it would not come without cost.²³ This becomes clear if one looks at the alternative to a haircut, i.e. a disorderly default. In this case, the market value of Greek bonds and bank shares would be highly un-

22 M. Saltmarsh: Moody’s to review French banks over Greece exposure, in: *New York Times*, 15.6.2011.

23 A detailed cost analysis would have to include a lower double-digit billion euro figure for recapitalising needy banks.

certain, maybe even zero. The necessary depreciations and uncertainty would be much larger.

Fourth, we also neglected the costs emerging from the different scenarios for the CDS markets. The suppliers on these markets must feel betrayed, because Greece is “artificially” prevented from insolvency. Since this lowers the value of the CDS, this could initiate new crisis-like events on financial markets.

Fifth, in our scenarios 4 and 5 the Greek government is assumed to dispense completely with its privatisation efforts. From an incentive point of view it cannot be excluded that this would retard Greece on its way to lower inflation and more competitiveness.

As is always the case in such simple and preliminary calculations, there might be even more to add. However, we leave this to future research. Most important in our view would be a dynamic analysis which truly incorporates numerical values for the credibility gains of all the actors on the euro area scene if the euro area truly went for debt restructuring. This would make scenarios 4 and 5 appear much more favourable than the “business as usual” strategy. Another important discussion would be whether such an orderly debt restructuring would have to be accompanied by the introduction of euro bonds or, in our view preferably, by a debt exchange à la Brady bonds as proposed in the framework for a European Monetary Fund. A European institution such as the latter (or, maybe, even a bank rescue fund) should be ready and prepared to support or liquidate those banks which are unable to withstand such a haircut. Finally, a factor which limits the potential legal problems of a haircut is surely that the vast majority of Greek bonds have been issued under Greek law.

The Second Greek Rescue Package

At their meeting at the beginning of July, the euro area Ministers of Finance agreed to grant new loans to highly indebted Greece only if the Greek government agrees upon new austerity measures. During the last few days, the EU summit has agreed on a second rescue package, together with some measures of debt relief. However, the details of the rules are still unclear. We therefore try to assess the implications of the implementation of such a second package for the ranking of our scenarios 1 to 5. Note that the new €12 bn loans which are envisaged for Greece in July have already been taken into account anyway in the above scenarios 1 to 5.

In general, our calculation looks as follows. The Greek gross refinancing needs over the next three years (until

mid-2014) amount to about €172 bn. This amount accrues from:

- bonds (€85 bn) and loans (€6 bn) which become mature
- repayment to the IMF (€5 bn)
- public budget deficit (€38 bn)
- further financing needs of nearly €40 bn to reduce the high amounts of short-term assets, to build up the Treasury cash buffer and the Greek contribution to the ESM where no opting out is possible.

Within the previous first Greek programme there are still €57 bn in loans outstanding. Hence, the net financing needs amount to €115 bn – under the assumption that Greece will not be able to refinance itself via the capital markets until mid-2014. This amount can potentially be reduced by privatisation efforts. If, for instance, any privatisation proceeds are assumed away, an additional amount of €115 bn emerges. Two thirds of this sum are allotted to the EFSF/ESM, i.e. roughly €80 bn. The German share is again calculated according to Germany’s capital share of 27.9 per cent. Hence, as before, Germany’s exposure amounts to roughly €22 bn. Analogously, we calculate with a French, Italian and Spanish exposure of €16.7 bn, €14.7 bn and €9.8 bn, with shares of 20.9, 18.4 and 12.2 per cent respectively. In our simulations we assume that the allocation of loans over the years is the same as in the first Greek package and add the year-specific realisation of the loan to the refinancing needs of the respective year. The EFSF/ESM share and, thus, also Germany’s exposure could well be lower if significant private sector involvement is assumed. However, we feel legitimised not to expect too much from this source.

Our simulation results show that Germany’s exposure amounts to €12.9 bn if Greece repays all of the additional loans received (scenario 1 modified). The costs for the German taxpayer increase to €45.5 bn if we assume a 1/3 repayment and are even higher (€70.8 bn), if there is no repayment at all (scenarios 2 and 3 modified). In our cases with Greek debt restructuring the costs amount to €42.9 bn (case 4, no contagion) and €47.7 bn (case 5, with contagion).²⁴ Thus, seen on the whole, debt restructuring (scenarios 4 and 5) becomes even more preferable if we take the implementation of a second loan package into account. The respective figures for France, Spain and Italy are again smaller; see Table 2 for the results.

²⁴ If we include the ECB exposure channel, the costs for the German taxpayer increase to €50.1 (=42.9+7.2) bn (case 4) and €74.9 (=47.7+27.2) bn (case 5).

Table 2
Fiscal Costs of Alternative Scenarios with Two Credit Packages

(€ bn)

	Germany	France	Italy	Spain
Scenario 1	12.9	9.5	8.5	5.6
Scenario 2	45.5	33.9	30.0	19.8
Scenario 3	70.8	52.8	46.5	30.8
Scenario 4	42.9	31.9	28.2	18.6
Scenario 5	47.7	35.6	31.4	20.8

Source: Own calculations.

Options for Action

According to our calculations, the restructuring of Greek debt, across all realistic scenarios, is on average cheaper for Germany, France, Spain and Italy than sticking to sequential and ever larger loan packages. Since the overwhelming majority of micro and macro indicators by now show, Greece will not be able to get back on its feet by having additional loans pumped into the Greek system. Instead, significant credibility gains should emerge from a quick and persuasive haircut since there is a commonly held view that participants in financial markets are characterised by very short memories and almost no sense of history.²⁵ “Debts which are forgiven will be forgotten.”²⁶ In other words, Greece could restructure its debt and spend a few years relying on the other euro area countries. In the meantime, the country could fix its fundamental economic

25 According to Gelos et. al. the majority of defaulters regain access to borrowing within one year after a restructuring. See G. R. Gelos, R. Sahay, G. Sandleris: Sovereign borrowing by developing countries: what determines market access?, IMF Working Paper 04/221, International Monetary Fund, Washington DC 2004. There is ample evidence that in the 1990s and 2000s sovereign defaults affected risk spreads only in the first and second year after the resolution of crisis. See E. Borensztein, U. Panizza: The costs of sovereign default, International Monetary Fund Working Paper 08/238, International Monetary Fund, Washington DC 2008. Earlier sources which come up with similar findings – but mostly for emerging markets – are: B. Eichengreen: The U.S. capital market and foreign lending, 1920-1955, in: Jeffrey Sachs (ed.): Developing country debt and economic performance, Volume 1: The international financial system, Chicago and London 1989, University of Chicago Press, pp. 107-155; E. Jørgensen, J. Sachs: Default and renegotiation of Latin American foreign bonds in the interwar period, in: B. Eichengreen, P.H. Lindert (eds.): The International debt crisis in historical perspective, Cambridge MA and London 1989, MIT Press, pp. 48-85; P.H. Lindert, P.J. Morton: How sovereign debt has worked, in: J. Sachs (ed.), op. cit., pp. 39-106; S. Özler: Have commercial banks ignored history?, in: American Economic Review, Vol. 83, No. 3, June 1993, pp. 608-620.

26 J. Bulow, K. S. Rogoff: Sovereign Debt: Is to Forgive to Forget?, in: American Economic Review, Vol. 79, No. 1, 1989, p. 49.

problems. After that, it could once again succeed in persuading investors to buy its bonds at a reasonable yield.²⁷

In the past, a couple of governments such as Russia that have defaulted on their debts have quickly returned to the international bond markets. The defaulting countries' ability to service any new debt has increased by much. And in many cases, such defaults are actually accompanied by a true regime change, a “pledge to turn over a new leaf”²⁸ and a tough determination not to end up in the same mess again.²⁹

In contrast, the “business as usual” alternative might prove to be dangerous because of the vicious circle it might cause: the private sector might withdraw its money from Greece and Greece would be permanently decoupled from international capital markets.

However, our results also show that in order to be effective Greek debt restructuring has to be executed earlier rather than later, since Greece would manage to get back on the capital markets earlier as well.³⁰ Even large haircuts of 50 to 70%, as recently requested by the Rating Agency Standard & Poor's for Greece as a “fair equivalent” to the spreads earned, would not cause the euro area as a whole to sway. This is due to the fact that Greece has a too low economic weight and that the German and French banks have up to now gained exorbitant interest rate revenues from the spreads. Imbalances in one or the other German or French bank cannot be excluded, however, although at the same time some other banks would even profit significantly from the technical processing of debt restructuring. The governments would in this case be held responsible for rebalancing their healthy banks. This would cause net ben-

27 P. Hannon: Though a debt-default would hurt, investors may not give up on Greece, in: Wall Street Journal, 19.4.2011.

28 Ibid.

29 However, Cruces and Trebesch, for instance, show empirically that in some other cases – evidently those in which no credible path of structural change is implemented – bond investors really do punish sovereign defaulters, and they do this for a really long time. This again underlines the importance of strict obligations imposed on the defaulting country not to incur new debt within the next ten years or so and of GDP warrants as the best way to align incentives. With every success in terms of GDP growth that has not been expected by creditors and debtors, outstanding debt would be further reduced. See J. Cruces, C. Trebesch: Sovereign Defaults: The Price of Haircuts, Universidad Torcuato Di Tella and Free University Berlin 2011, mimeo.

30 See our arguments in L. Niehaus, op. cit. Some argue that it might be better to go for debt restructuring some quarters later because in the meantime Ireland and Spain could recover and their exposure to a haircut for Greek debt, i.e. contagion, would thus be lower. Moreover, it is sometimes argued that pushing through debt restructuring would be easier if the majority of creditors is public and not from the private sector. However, this paper argues that the danger of contagion of euro area member countries such as Ireland and Spain, which are so structurally different from Greece and Portugal, should be quite limited and that an increasing share of public creditors and their senior creditor status leads to a vicious circle.

efits for the taxpayer due to the timely haircut for Greece and the avoided contagion of other euro area countries.

As Deutsche Bank Chief Economist Thomas Mayer argues³¹: “In the end, the best solution for Germany is one that really works, which leads to the Greeks’ no longer needing more new loans from the EU and the IMF. Anything which misses this target would be a pure waste of money”. However, adverse political reactions by voters have to be added to the calculus, or as Thomas Mayer puts it³²: “The taxpayers in the EU will not support aid to Greece for as long as the country needs to get back on its feet.” In this respect, it is quite obvious that the supporters of further loans to Greece clearly underestimate the possibility of a refusal to assume the risk of a Greek default.³³ Examples are political developments in Finland, but also the current debates in the Netherlands, Germany and even France, where the National Front is increasingly managing to be heard.³⁴ In turn, increasing resistance within Greece against externally imposed austerity measures is just the other side of the same coin and indicates the non-sustainability of the “business as usual approach”. Roth, Nowak and Otter³⁵ show that citizens’ trust in Greece has been shattered in the eurozone crisis. Their study presents empirical evidence that it will be unrealistic for “business as usual” to work as citizens will strongly oppose the implemented austerity measures. With an eye to these considerations, there probably only remains substantial debt restructuring as a solution to the Greek mess. This is because, as Daniel Gros (CEPS)³⁶ argues: “If Greece continues to hang on the EU drip, the political costs for the whole of Europe will simply be too high.”

Although there are strong doubts both among the public and in financial markets as to Greece’s ability to ever repay its debt, the supporters of this solution argue that a default could have disastrous consequences for Greece, the euro area and possibly even the world financial system. Obviously, they assume that a step-by-step transfer of the default risks to the German and the European taxpayer via the public refinancing of maturing private debt is the smaller problem.

But the alternative to strictly sticking to the “business as usual” strategy is not a disorderly default of the country. Admittedly, any unprepared default of Greece would surely mean a shock for the financial markets. However, this shock would be largely moderated by the fact that European banks have already taken into account a haircut of around 50% in the prices of Greek sovereign bonds. What is more, European banks have to the largest extent possible already withdrawn from fi-

ancing the Greek banking system and have surrendered this task to the ECB. The shock could be even mitigated further by an orderly debt restructuring.³⁷

Conclusions

This paper has discussed the large European economies’ government exposure to the Greek debt problem by simulation methods. The value-added of these calculations lies in the potential transfer to the euro area level. However, the static nature of the analysis has to be stressed once again. Deficits in the incorporation of dynamic credibility gains from enacting a timely haircut might worsen the results.

As is always the case in such simple and preliminary calculations, there might be even more to add. However, we leave this to future research. Most important in our view would be a dynamic analysis which truly incorporates numerical values for the credibility gains of all the actors on the euro area scene if the euro area truly went for debt restructuring. Another important aspect is whether an orderly debt restructuring would have to be accompanied by the introduction of euro bonds or by a debt exchange à la Brady bonds as proposed in the framework for a European Monetary Fund. A European institution such as the latter could be ready and prepared to support or liquidate those banks which were unable to withstand such a haircut.

What strikes us most after having done all the calculations is the fact that our considerations and priorities in some of our previous papers concerning the role of the ECB as the bad bank for the euro area³⁸ have turned out to be completely true and have gained so much importance within the last twelve months.³⁹ In the meantime, for instance, increases in the ECB capital stock became necessary and dramatic decreases in the quality of assets on its balance sheets became obvious (including cases of fraud!) Taking this as a starting-point, the most important benefit of a timely restructuring of Greek debt would be to avoid destroying the reputation of the ECB!

31 See L. Nienhaus, *op. cit.* (our translation).

32 *Ibid.* (our translation).

33 A. Belke, *op. cit.*

34 D. Lachman, *op. cit.*

35 F. Roth, F. Nowak-Lehmann, T. Otter, *op. cit.*

36 See L. Nienhaus, *op. cit.* (our translation).

37 D. Gros, T. Mayer: Debt reduction without default, CEPS Policy Brief, No. 233, Centre for European Policy Studies, Brussels 2011.

38 For an answer to the question “Can central banks go bankrupt?” see A. Belke: How much fiscal backing must the ECB have? The euro area is not the Philippines, Briefing paper prepared for presentation at the Committee on Economic and Monetary Affairs of the European Parliament for the quarterly dialogue with the President of the European Central Bank, Brussels 22.3.2010; A. Belke: Driven by the markets? ECB sovereign bond purchases and the Securities Markets Programme, Briefing paper prepared for presentation at the Committee on Economic and Monetary Affairs of the European Parliament for the quarterly dialogue with the President of the European Central Bank, Brussels 21.6.2010.

39 This is especially true for our gloomy forecasts of the emergence and severe consequences of quasi-fiscal activities of the ECB presented not later than March 2010 (!) in A. Belke: How much fiscal backing must the ECB have? ..., *op. cit.*