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# Global Economics View

## Rising Risks of Greek Euro Area Exit

- We raise our estimate of the likelihood of Greek EA exit (‘Grexit’) to 50% over the next 18 months, from 25-30% previously. This is mostly because we consider the willingness of EA creditors to continue providing further support to Greece despite Greek non-compliance with programme conditionality to have fallen substantially.

- We think that the costs of Grexit to the rest of the euro area would be moderate, as we expect post-Grexit exit fear contagion would be contained by policy action, if needed. In September, we viewed the likelihood and scale of exit fear contagion as much higher and the willingness of the euro area authorities to respond as lower.

- In our view, the likelihood of policy action by the ECB and EA creditors to support fiscally weak and vulnerable, but compliant EA creditors has increased over the past six months. Policymaker ability to contain exit fear contagion remains large.

- We continue to think that uncontained exit fear contagion would have grave implications for the rest of the euro area, the EU and the world at large.

- We think that the Greek government will achieve an orderly but most likely coercive debt restructuring in its current negotiations with private creditors about private sector involvement and with the Troika on ECB involvement. We also expect agreement with its official creditors on a 2$^{nd}$ bail-out. Greece is therefore likely to avoid disorderly default when its next bond redemption is due (which is on March 20, but a seven-day grace period applies).

- To remain in the euro area, the Greek government needs to exhibit a minimum degree of compliance with the fiscal and structural conditions of the bail-out programme. Alternatively, it could choose to temporarily cede authority over certain budgetary decisions to EU/EA representatives.

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**See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.**

# Rising Risks of Greek Euro Area Exit

## 1. Introduction

**We raise our estimate of the likelihood of Greek euro area exit ('Grexit') to 50%. We also argue that the costs of Grexit to the euro area would likely be moderate.**

In this piece, we make two key points: First, we raise our estimate of the likelihood of Greek exit from the eurozone (or 'Grexit') to 50% over the next 18 months from earlier estimates of ours which put it at 25-30%.[1] Second, we argue that the implications of Grexit for the rest of the EA and the world would be negative, but moderate, as exit fear contagion would likely be contained by policy action, notably from the ECB. In September, we considered the likelihood of exit fear contagion following Grexit to be much higher and, should exit fear contagion occur, the ability of the EU and the IMF to contain it to be much lower.[2] Uncontained exit fear contagion, now in our view an unlikely event, would however have grave implications for the rest of the euro area, the EU and the world at large.

**We continue to expect successful completion of Greek PSI and agreement on a 2nd Greek bail-out before March 20.**

We continue to expect that an agreement will be found between the Greek government and its private sector creditors on a sovereign debt restructuring with PSI, and between the Greek government and its official creditors on a 2nd bailout package in advance of the upcoming Greek sovereign bond redemptions and for Greece therefore to avoid disorderly sovereign default on March 20.[3] We consider it likely that the Greek sovereign debt restructuring would be designated a credit event by ISDA, triggering payments under Greek sovereign CDS.[4]

**A lower expected cost of Grexit to the rest of the EA makes Grexit more likely. But the political and financial costs to EA creditors of providing continued support to Greece have also risen.**

A lower expected cost of Grexit to the rest of the EA makes Grexit more likely. Lower costs of Grexit have also likely contributed to a reduced willingness of the fiscally stronger EA countries to continue providing additional funds to Greece despite its persistent failure to comply with the conditionality of the Greek bail-out package. But the *cost of providing* continued support to Greece despite what is perceived as a lack of effort (and not only a lack of achievements) to implement serious fiscal and structural reforms has also increased. This is in part because the unpopularity in EA creditor countries of de facto unconditional bail-outs (that is, bailouts where conditionality concerning fiscal austerity and structural reform is consistently and willfully flouted) continues to rise But a second factor also comes into play: As cyclical economic conditions in the EA have deteriorated and as more, and larger, EA countries have come under attack, the scale of the fiscal and financial support that may need to be provided by EA creditor countries, the ECB and the IMF has risen. Providing further funds to Greece despite its lack of efforts to carry out fiscal austerity measures and structural and privatisation reforms could undermine the prospect of supporting other fiscally weak, vulnerable, but currently compliant EA member countries, and therefore either raise the cost or even fundamentally call into question the viability of this regime of 'EA solidarity'.

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[1] Global Economics View - EMU Crisis Outlook: Lender of Last Resort on the Way

[2] Global Economics View - A Greek Exit from the Euro Area: A Disaster for Greece, a Crisis for the World

[3] As a seven-day grace period applies to payments due on March 20, default would not occur until March 27 even with non-payment of the debt due by the Greek sovereign.

[4] We consider it likely that the Greek sovereign debt restructuring (PSI) will be coercive, that is, to be designated a credit event by ISDA and to trigger payments under Greek sovereign CDS. An even technically or formally coercive restructuring may be necessary to get the €100bn reduction in the face value of the Greek sovereign debt that the PSI set out to achieve. To bail-in the holders of Greek sovereign bonds other than the banks negotiating collectively through the IIF – principally hedge funds and the ECB which is estimated to hold about €60bn (at face value) worth of Greek sovereign bonds through the SMP – a coercive restructuring is likely to be required. However, it is possible that a credit event would be avoided. This could be, because voluntary participation rates in the Greek PSI may be sufficient in the eyes of the Greek government and the official creditors, or because the original agreement of the official creditors and the ECB that the Greek debt restructuring would be voluntary would be respected.

The growing impatience among the 'core' euro area member states with the Greek failure to implement agreed upon conditionality has led to a widely leaked German government proposal at the end of January. According to this proposal Greece would for its second bail-out surrender fiscal sovereignty to an unprecedented degree, up to and including the appointment of a European Commission Budget Commissioner (soon to be dubbed Budget Commissar or Czar) with the authority to override all important Greek spending and revenue decisions. The strong negative Greek reaction to this proposal – Deputy PM and finance minister Venizelos stated that Greece was being forced to choose between "financial assistance" and "national dignity" suggests that the demands from Brussels, Frankfurt and Washington DC may become hot issues in the forthcoming Greek parliamentary elections, likely to be held early in April 2012.

The hurdles for Greece set by EA negotiators to receive the 2nd bail-out are high, including large cuts to private sector wages, auxiliary pensions, public sector lay-offs, and a signed cross-party commitment to stick to these measures after the next Greek election. However, it is still true that EA creditor nations continue to have an interest to 'keep the show on the road' as long as Greece shows the minimum degree of compliance with its programme conditionality. This is because Greek exit still has the potential to start a string of sudden stops in the external financing of periphery sovereigns, banks and other private entities in other fiscally weak, vulnerable countries in the EA periphery and the 'soft core'. While the conditions for agreement are undoubtedly tougher during the negotiations over the 2nd Greek bail-out compared to previous programme reviews, and the Troika's negotiating position appears less flexible, we therefore continue to think that the common interest is large enough to lead to an agreement over the 2nd bail-out.

Given that the reduction in the willingness of the EA creditors to continue providing funds to Greece despite its failure to meet conditionality targets has so far not been met with an increase in the willingness of ability of the Greek government to implement fiscal and structural reform measures, the view that Grexit is more likely than not over the next few years has increased. In our view, however, the probability of Grexit is still not larger than the probability for the scenario under which the Greek government agrees to implement the minimum degree of fiscal and structural reform and privatisation measures required to allow the Troika creditors to continue paying out the tranches of Greece's 1st and soon also 2nd bailout programme.

**We think that the costs of Grexit to the rest of the EA would likely be moderate, as 'exit fear contagion' post-Grexit could, and almost certainly would, be contained, for several reasons:**

In early September 2011, we argued that the cost of Greek EA exit to the rest of the EA and to the rest of the world would be very high.[5] We now consider these costs to be much lower in expectation, because we think that 'exit fear contagion' post-Grexit could, and almost certainly would, be contained. Grexit would therefore not lead to a full-scale break-up of the euro area along the core-periphery divide (or even the 'hard' core vs. the 'soft' core (France, Belgium and Austria) and the periphery divide). The scale of exit fear contagion is key in this assessment. Grexit that leads to exit by additional EA countries would be more costly and such an exit would be more likely to call for additional support by the fiscally strong EA countries and the ECB to prevent it – making Grexit less likely in the first place. Grexit that does not lead to a string of additional EA exits would be less costly, therefore less likely to induce a policy response by the EA creditor countries and the ECB – and therefore implies a higher likelihood for Grexit to occur.

Several developments have contributed to shift our assessment of Grexit towards the more likely end of the spectrum.

[5] Global Economics View - A Greek Exit from the Euro Area: A Disaster for Greece, a Crisis for the World

**First, direct foreign private exposures to Greece have fallen sharply and contingency plans for Grexit have been made.**

First, direct (and some indirect) exposures to Greece of foreign banks, other investors, and non-financial corporates have been reduced substantially and contingency plans have been made by a likely large number of public and private institutions. This process has been going on for the past 18 months, but by now the reduction in direct exposure to Greece and the extent of contingency planning may well have reduced the direct effects of Grexit to a level that could likely be absorbed by most relevant (non-Greek) institutions without major disruption. For example, exposure of foreign banks to Greece, which account for the bulk of total private exposure to Greece, has already fallen by more than 60% since 2009 to around EUR80bn according to BIS data. This includes exposures across all sectors, including not just the public sector, but also Greek banks and the Greek non-bank private sector. These data still overstate the maximum hit foreign banks would take as a result of Grexit, as the values do not reflect additional expected losses that would take place even if Greece remained in the EA (for example, as a result of Greek PSI). The only sector that has seen an increase in exposure is the official sector (EA creditor nations, ECB and IMF) and even there the scale of the total direct exposure remains easily manageable, at least from a financial perspective. Political tolerance in EA creditor nations may not match financial loss-absorption capacity.

**Second, EA creditors and the ECB have suggested greater willingness to support vulnerable, but compliant EA member states under pressure.**

Second, the positions of the main EA policymakers seem to have evolved and now suggest a greater willingness by EA creditors and the ECB to support vulnerable, but compliant EA member states under attack. In our view, EA leaders have come to the understanding that the financial, economic and political cost to the whole EA (and indeed to the EU and the global economy) of material EA break-up (that is exit of other nations than Greece) is substantially larger than the cost of extending conditional support. But EA creditor countries have also made increasingly clear that they no longer believe that the costs to the creditor countries of EA break-up or EA exit by one EA country would exceed the costs of creating a one-side fiscal union, a transfer-Europe without a commensurate *quid pro quo* as regards fiscal austerity and structural reform in the beneficiary countries, underpinned if necessary by far-reaching and unprecedented transfer of fiscal and wider economic sovereignty by the beneficiary countries. The EA creditor countries undoubtedly view the cost of providing *unconditional and/or unlimited* or open-ended fiscal and financial support to fiscally vulnerable EA countries as a price not worth paying to keep a single non-performing EA member state in the club.

**EA creditor countries have also clarified that they consider the political and financial costs of a one-sided fiscal union to them to be higher than the costs of EA break-up.**

The meaning of ‘unconditional’ and ‘non-performing’ in the previous sentence encompasses support that is nominally conditional, but where the debtor is willfully non-compliant with the conditionality, as in the case of Greece currently. Bolder action may be taken, including larger EFSF/ESM-style facilities and larger ECB involvement, but they require serious efforts on the part of the debtor nations to do their part. If they are unwilling or unable to deliver, EA countries under attack by markets may be left to swim alone. Greece clearly is in the crosshairs of this changing mood of the EA creditor nations.

**Providing further support to Greece despite its failure to comply could undermine the prospects of inducing other fiscally weak EA countries to carry out fiscal and structural reforms.**

Further extending support to Greece despite Greece continuing to miss fiscal and structural reform targets is seen in ‘core Europe’ as inconsistent with a viable regime of EA ‘solidarity’. Justified or not, a growing portion of EA policymakers have come to see Greece as a special case, both in terms of the scale of the reform effort needed to turn the country into a viable EA member for the long term, and in terms of its ability and willingness to engage in such reforms. In fact, Greek exit is looked upon favourably by some of the EA creditor nations, as it would potentially reduce the risk of moral hazard on the part of other debtor countries and therefore promote more constructive behaviour (thus justifying Grexit as ‘setting an example’). A more benign interpretation of this position is that, some kind of ‘catharsis’ may be needed in Greece to induce the type of reforms needed to turn around the country, and that EA exit could potentially deliver such a cathartic experience and may therefore even be in Greece's own long-term interest.

**EA policymakers have the technical ability/capacity to respond to exit fear contagion.**

A related aspect, but one that we have not changed our view on, is that policymakers in the EA have the technical *ability/capacity* to respond to exit fear contagion. The heavy lifting would likely mostly be left to the ECB, but the recent 3-year LTRO has highlighted that policymakers have plenty of ammunition left to respond to non-fundamental contagion and hysteria.

**Investors have started to differentiate between the fate of Greece and other fiscally weak EA member countries.**

Third, and driven partly by the first and second developments, investors have started to differentiate between the fate of Greece and other fiscally weak EA member countries. Correlations between Greek asset prices and those of other countries have decoupled mildly. The scale of the fiscal, financial and economic reform efforts needed to make public debt levels in Greece sustainable and restore investor confidence in Greece also appears larger than in the other vulnerable EA countries.

When considering the costs of Grexit to Greece and the rest of the world, it is important to keep in mind the appropriate counterfactual. For example, even in our base case (which does not include Grexit), we expect the EA to undergo a rather deep recession in 2012 which will likely last until some time in 2013. Grexit may alter the economic outlook in Europe for this horizon, but the extent of the impact on the economic outlook depends on the policy response. With an adequately decisive policy response, the impact on Europe's economic outlook may be rather moderate. We remain of the opinion that the political, economic and financial costs of Grexit to Greece would likely be large, but also lower than six months ago.[6]

For most purposes, effects do not vary very much if Grexit were to occur before or after the PSI is concluded. This is because we believe that, even if Greece remains in the EA, further rounds of Greek sovereign debt restructuring will occur. The balance of costs between the private and the official sector might differ depending on whether Grexit took place pre- or post-PSI, but that difference is also unlikely to move the needle for either sector materially.

**Even if Greece stays in the EA, we expect there to be further Greek sovereign debt restructuring in the future.**

Even if Greece stays in the EA, we expect there to be further Greek sovereign debt restructuring in the future. This is, first, because any restructuring agreed under the current PSI is most unlikely to bring the Greek sovereign to a 120% of GDP gross general government debt stock by 2020 – a declared objective of the second Greek bailout package and, second, because even if, by some miracle, Greece were to achieve a 120% of GDP general government debt by 2020, this would be far too heavy a public debt burden for the Greek sovereign to carry. Ultimately, after 2 or 3 sovereign debt restructurings in Greece (the EU never does anything at one fell swoop if many timid swoops are possible), we expect that all private and official creditors other than the IMF (which is likely to be protected by its preferred creditor status) will lose the bulk of their investments (85 percent or more in NPV terms).

[6] The costs of Grexit to Greece probably have fallen somewhat on two rather unappealing grounds that imply that the counterfactual, i.e. the prospect of Greece remaining within the euro area, has become less attractive. First, the recession in Greece has deepened, cyclical conditions in the rest of the EA have worsened and the Greek financial sector has continued to suffer from deposit outflows. Second, the prospects of a decisive restructuring of Greek sovereign debt and of a sustained improvement in the Greek general government primary balance that would eliminate the need for additional rounds of sovereign debt restructuring in Greece over the next few years and therefore return the Greek sovereign to solvency and eliminate both 'debt overhang' and 'uncertainty overhang', if Greece stays in, have receded.

**A major downside risk is that exit fear contagion following Grexit could be much stronger than anticipated and/or might not be met by the appropriate policy response.**

Clearly, the Grexit scenario that we describe here is subject to major downside risk, namely that exit fear contagion following Grexit could be much stronger than anticipated, leading to a sequence of sudden stops in the external financing of periphery sovereigns, banks and other private entities. Unless an official ECB/EFSF/ESM/IMF firewall/ big bazooka can deter or negate such a withdrawal of market funding, there could be a sequence of forced exits from the EA, reducing the euro area to a greater DM zone.

## 2. Why would exit fear contagion be contained after Grexit?

**The strength of exit fear contagion depends on direct and indirect linkages to Greece as well as policy ability and willingness to respond to exit fear contagion.**

The degree of exit fear contagion depends on the strength of the different channels of contagion triggered by Grexit (through direct trade and financial linkages as well as indirect, non-fundamental and sentiment-driven channels), the ability of policymakers at both the national and supranational level to react to potential pressures, and their *willingness* to act. These factors are interrelated.

In our view, the ability of policymakers, notably the leaders of the main EA creditor nations and the ECB, to act to contain contagion and prevent Grexit from resulting in a full-blown break-up of the euro area is high. The other three factors determining the external costs of Grexit – the scale of the direct external effects of Grexit, the vulnerability of other fiscally weak, uncompetitive EA countries and the willingness of policymakers to act – offer a mixed picture as regards the external costs of Grexit. The direct external effects of Grexit are likely to be lower than they were 6 months ago; the vulnerability to contagion of other fiscally weak and uncompetitive EA countries because of domestic vulnerabilities probably has increased; and the willingness of policymakers to act in support of conditionality compliant fiscally weak countries probably has increased.

**Figure 1. Selected Countries – Selected Fiscal and Economic Indicators for 2012**

| | GG Gross Debt | GG Net Debt | GG Overall Balance | GG Primary Balance | GG Structural balance | GG CAPB | CA Balance | GG Gross Financing Requirements | GDP Growth |
|---|---|---|---|---|---|---|---|---|---|
| | *% of GDP* | *% of GDP* | *% of GDP* | *% of GDP* | *% of GDP* | *% of GDP* | *% of GDP* | *% of GDP* | *%YoY* |
| **Austria** | 74 | 54 | -3.2 | -0.9 | -3.0 | -0.7 | na | 9.6 | 1.6 |
| **Belgium** | 109 | 80 | -2.7 | 0 | -2.7 | 0.7 | -2 | 19.7 | -0.7 |
| **France** | 92 | 84 | -4.5 | -2.1 | -3.3 | -0.9 | -2.2 | 17.8 | -0.7 |
| **Greece** | 144 | 175 | -10.4 | 0.8 | -4.7 | 2.6 | -4.4 | 32.9 | -4.9 |
| **Ireland** | 115 | 105 | -8.6 | -4.4 | -5.5 | -1.5 | na | 8.7 | 1.5 |
| **Italy** | 129 | 101 | -2.7 | 2.6 | -0.8 | 3.8 | -2.9 | 23.3 | -2.3 |
| **Netherlands** | 70 | 33 | -3.6 | -1.2 | -2.3 | -0.7 | 7.1 | 12.0 | -0.7 |
| **Portugal** | 99 | 108 | -5.1 | 0.1 | -1.3 | 3.0 | -6.4 | 21.2 | -5.8 |
| **Spain** | 83 | 59 | -5.6 | -3.1 | -4.7 | -2.1 | -2.9 | 18.7 | -2.7 |

Note: GG is General Government. Net Debt is Gross Debt minus Financial Assets (from IMF). Structural Balance is the cyclically-adjusted overall balance (from IMF). CAPB is the cyclically-adjusted primary Balance (from IMF). All other figures are CIRA forecasts except for Ireland where they are IMF forecasts. Gross financing needs are equal to GG Deficit (CIRA estimate) plus marketable debt issuance plus bills.

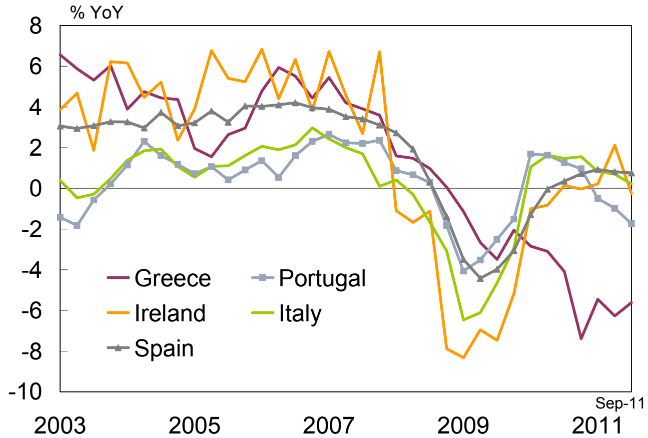
Sources: IMF WEO, IMF IFS, IMFBOPA, Bloomberg, and CIRA

**Direct linkages to Greece are small and continue to fall, but the fundamental vulnerability of other fiscally weak EA countries remains high.**

Regarding direct linkages, suffice it to say these are small. Greece is a small economy (accounting for about 2% of EA GDP) with a remarkably small external sector (exporting and import-competing production), given its size and the absence of administrative and legal impediments or tariff and non-tariff barriers to trade in real goods and services. Its financial integration with the rest of the world is somewhat larger, but even there the degree of private interconnectedness with the rest of the world has fallen strongly. On both counts, we provide more detail in section four. However, of greater concern is the direct vulnerability of the remaining

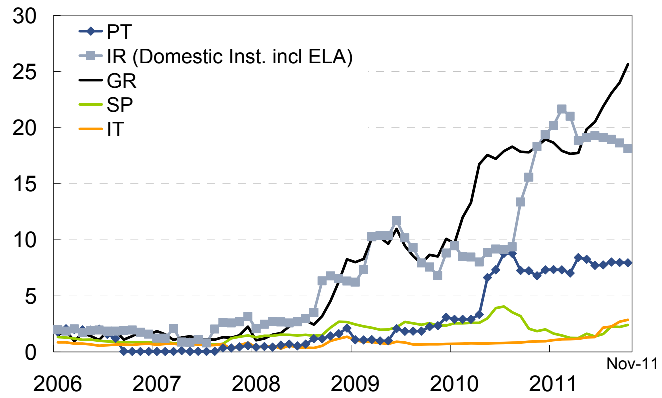
EA periphery countries. More often than not, they grapple with a quadruple fiscal-financial-economic-political challenge, with only the political aspect muted for the time being in Ireland, Portugal and Spain (but very much alive in Italy). Recessions have started or deepened recently, government budget deficits have at best started to fall from high levels, and reliance on non-market sources of funding for sovereigns and banks remains high (Figure 2 and Figure 3).

**Figure 2. Selected Countries – Real GDP Growth (%YoY), 2003 – 2011 Q3**




Source: Eurostat and CIRA

**Figure 3. Selected Countries – Banks' Use of ECB Open Market Operations (% of financial sector assets), 2006 – Nov 2011**



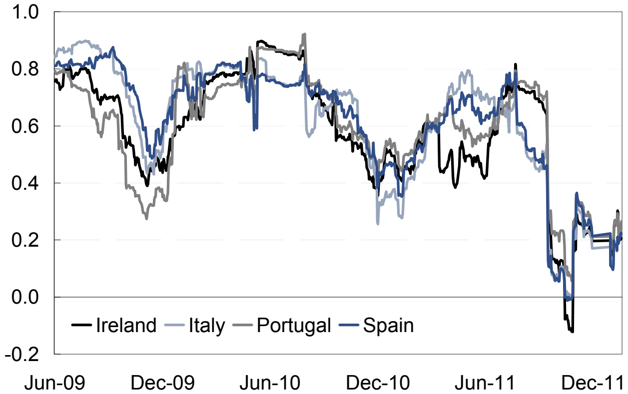

Note: Irish and Greek data include emergency liquidity assistance.
Source: National Central Banks, ECB and CIRA

But taking as given direct effects and fundamental vulnerability, much will depend on factors such as investor sentiment, and in particular whether, following Grexit, investors would infer that either the willingness of the fiscally stronger EA nations to support the struggling ones was running out, or materially lower than thought previously, and/or that the willingness to exit among other fiscally and competitively weak periphery member states was higher than believed previously, thus making an exit of other EA periphery countries or even a full-scale breakup likely.

**Investors have started to differentiate more between Greece and other fiscally weak EA countries.**

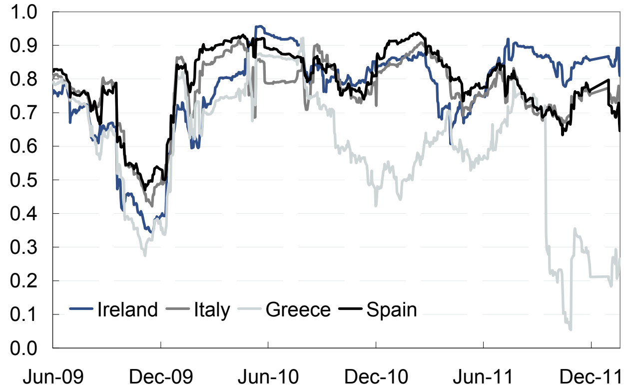
Factors such as investor sentiment are self-feeding, not well anchored and notoriously fickle, therefore prone to reverse course and difficult to predict. Currently, some anecdotal evidence suggests that investors currently view Greece as in a different category from other EA periphery countries. For example, as shown in Figure 4, the correlation between changes in Greek sovereign CDS spreads and those of Italy, Spain, Ireland and Portugal has fallen substantially over the past few months. A similar decrease in correlations could not be observed for the other peripherals (Figure 5 presents correlations with Portuguese sovereign CDS, but the picture is qualitatively similar for Ireland, Italy or Spain).

**Figure 4. Selected Countries – Co-movement of selected countries' and Greek CDS spreads, 2009 – 2011**




Note: 90-day rolling correlation of changes in 5-year CDS spreads with changes in Greek 5-year CDS spreads. Correlations range from -1(minimum) to 1(maximum).
Source: Bloomberg and CIRA

**Figure 5. Selected Countries – Co-movement of selected countries' and Portuguese CDS spreads, 2009 – 2011**




Note: 90-day rolling correlation of changes in 5-year CDS spreads with changes in Portuguese 5-year CDS spreads. Correlations range from -1(minimum) to 1(maximum).
Source: Bloomberg and CIRA

**Policymakers have many tools at their disposal to respond to exit fear contagion.**

We do not want to overplay the significance of what is in truth at best anecdotal evidence for differentiation by investors (low liquidity in the Greek sovereign CDS market and the controversy around the Greek PSI becoming or not becoming a credit event imply that Greek CDS spreads are likely unusually 'noisy'), and we have already emphasized that investors can be fickle. A factor that we have more confidence in is the *ability* of policymakers, notably the ECB and policymakers in the main EA creditor countries, to contain exit fear contagion given a rather limited fundamental shock, should they want to. This is a point we have already made in response to the implications of a potential Greek credit event back in October (Why we should not panic if deep Greek sovereign debt restructuring triggers CDS), but we now have the reactions following the 3-year LTRO on December 21 to support our case. A highly relevant factor is that the overwhelming majority of financial liabilities in the euro area, notably of EA sovereigns and banks, are euro denominated. This is in sharp contrast to many emerging market crises in the past and this has the effect that in principle the ECB could replace any lost funding by making the printing presses run double shifts. [7]

In addition, also unlike troubled EMs in the past, even for non-euro denominated liabilities, swap lines exist with the other major central banks in the world, ensuring adequate liquidity even in foreign currency terms. The eventual reversal of such currency swaps would of course require that the ECB in time acquires the necessary foreign currency assets to meet such foreign currency liabilities. The threat of a liquidity ambush is, however, surely eliminated by the swap lines.

With monetary policy rates very low and therefore close to the effective lower bound and fiscal space severely limited in most euro area countries, policy ammo has certainly felt more plentiful at other times. But remember that what we expect from policy here is not a conventional aggregate demand stimulus to the real economy (although that would certainly be welcome given the cyclical weakening we expect for the EA even in the absence of a systemic financial crisis), but rather preventing or mitigating major funding crises and sequences of non-fundamentally warranted

[7] Sterilisation of the monetary implications of the asset purchases or loans that would drive such and ECB balance sheet expansion is possible through the issuance of non-monetary liabilities, including term deposits and, if necessary, ECB bills and bonds. The money multiplier, that is, the ratio of broad money to central bank money or the ratio of bank credit to central bank money can in addition be controlled through variations in the minimum required reserve ratio or in the interest rate paid on excess reserves.

defaults of public or private entities. For that, plenty of ammunition could, politics permitting, be made available by the main actors from a technical or resource availability perspective. The EA creditor nations could increase the effective size of the EFSF/ESM beyond the combined currently approved effective size of €500bn (assuming the EFSF and ESM will be allowed to run side-by-side) to, say, €2trn; they could announce guarantees at the European level for deposits or unsecured bank funding and they could announce joint and several guarantees for sovereign debt issuance (E-Bonds). In aggregate, some fiscal space remains in the EA, but at this stage of the crisis, having to rely on the remaining fiscal space of other EA sovereigns would hardly count as reassuring.

But the ECB still has many more arrows in its quiver. It could substantially increase its SMP purchases (and stop sterilising them, even though the current sterilization through the issuance of one-week term deposits is semantic or cosmetic, rather than substantive); it could purchase outright a wider group of assets, including unsecured bank debt and corporate bonds; it could further reduce collateral requirements; it could reduce the main refinancing rate to zero in due course, rather than defining 50 basis points to be the euro area zero, setting the rate on the deposit facility at minus 50 or minus 75bps. And that is even before considering a number of more creative policy options. It could even put its mouth where its money is, i.e. provide an open rhetorical commitment to providing support (conditional on appropriate conditionality being met and on other appropriate actions by the beneficiaries) to those vulnerable sovereigns and banks that remained in the EA. It may or may not be likely that some or all of these policy measures would be taken to address exit fear contagion and to prevent a disorderly EA break-up, but we strongly reject the view that should major exit fear contagion materialise, EA policymakers would not have the power and the instruments to contain it.

**EA creditor countries and the ECB are more willing than before to support EA countries under pressure, as long as they are willing to implement fiscal and structural reforms.**

Now that we have established that it would be within policymakers' power to contain contagion, the more relevant question is whether they would be likely to do so. Here, it is not possible to be as definitive, but we argue that there are two reasons to suggest they would, the first one stronger than the second.

The first reason is that the cost of full-blown euro area break-up is clearly larger than the cost of even substantially increasing support for the weaker parts of the EA periphery, as long as these costs do not turn into a one-sided open-ended commitment to provide financial support even absent meaningful fiscal austerity and structural reform in the beneficiary countries. A full analysis of the cost of EA break-up is beyond the scope of this paper, but here we note that, despite a gradual shrinking of cross-border exposures of financial sectors within the EU since 2008, break-up would likely lead to an implosion of the financial sector in all EU countries (and likely beyond), throwing the euro area into a deep recession, and damaging its growth potential for the near and medium term. Cross-border positions within the EA of EA banks remain at around €3.3trn in Q3 2011 according to BIS data, substantially down from levels of around €4.5trn in 2008, but still amounting to about 25% of 2011 EA GDP. Cross-border claims of EU banks within the EU are almost €10trn. Total assets of EA monetary-financial institutions (which is a larger set of financial institutions than the banks captured in the BIS data) amounted to a whopping €33.6trn or 3.5 times EA GDP. Total assets of financial corporations in the EU stood at €83trn in 2010. Allowing EA break-up and bringing down the EU (and likely global) financial sector would be immensely costly.

The second reason is that policy statements by EU leaders have included support for the efforts made in the other EA periphery countries, while becoming more and more openly critical of Greece. Thus, on January 11, German Chancellor Merkel stated that Germany has 'great respect' for how quickly Monti has pushed through austerity measures and said that 'the speed and the substance of these measures are something that will strengthen Italy and improve its economic circumstances.'[8] For Spain, again, Merkel on January 26, 2011, said that Germany is "following with great respect" Spain's reform program.[9] Regarding Ireland, on November 16, 2011, Merkel praised Ireland as an "outstanding example" of a country that got a bailout and has fulfilled the terms of its bailout.[10] On Portugal, Merkel on December 15, 2011, said that Lisbon was making "very encouraging" progress in slashing its deficit and that the Portuguese and other nations implementing tough austerity programmes deserve all 'respect'.[11] This is but a small extract from a rather long stream of supportive statements.

Recent comments regarding Greece sound much less supportive. For example, after a meeting between Sarkozy and Merkel, Sarkozy said that "our Greek friends must live up to their commitments," while Mrs. Merkel said that if those commitments were not met by the Greek government, "it will not be possible to pay out the next tranche" of the bailout money.[12] Again, the list of admonishing and critical statements regarding Greece is rather long and getting longer on an almost daily basis, as Greece negotiates its 2nd bail-out agreement.

Of course, elected policymakers are in general much less reluctant than the ECB to engage in 'open-mouth operations' as a (partial) substitute for politically painful action. And the tone of the above statements regarding Ireland, Portugal, Italy and Spain is not all that different from similar ones made earlier about Greece. However, we do sense for the moment an actual or projected belief that all countries other than Greece are currently more or less compliant with the explicit (in the cases of Portugal and Ireland which have formal IMF/EU programmes) or implicit (for Italy and Spain) conditions for financial support. This is true for Portugal even though it only met its fiscal target for 2011 through a one-off accounting measure and even for Italy, where the record of 'compliance' only began once Berlusconi had allowed Monti to take the reins.

And compliance is fragile. In Portugal, austerity only started in earnest about eight months ago and the country is likely to suffer a deep recession in 2012 and 2013. In Italy, PM Monti's tenure depends on support from a number of parties including that of former PM Silvio Berlusconi, and austerity has barely started. Compliance is key to generate policy commitment, notably from Germany, to support the fiscally weak members of the EA. But the minimum degree of compliance needed to induce enhanced contingent policy support by the ECB, EA creditor countries and the IMF is likely relatively low.

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[8] http://www.bloomberg.com/news/2012-01-11/merkel-praises-italy-debt-cuts-as-monti-calls-for-recognition-of-progress.html

[9] http://www.msnbc.msn.com/id/46144557/ns/business-stocks_and_economy/

[10] http://www.cnbc.com/id/45321955/Merkel_Praises_Ireland_But_Ireland_Isn_t_Italy_or_Spain

[11] http://www.portugaldailyview.com/01-whats-new/merkel-german-chancellor-praises-progress-in-lisbons-bailout-performance

[12] http://www.nytimes.com/2012/01/10/business/global/merkel-and-sarkozy-meet-as-bond-markets-remain-wary-of-euro-risk.html

# 3. How would Greece leave?

**Since there are no Treaty procedures for EA exit, Grexit would be 'improvised' from a Treaty perspective.**

As we have noted several times (see e.g. Global Economics View - The Debt of Nations and The future of the euro area: fiscal union, break-up or blundering towards a 'you break it you own it Europe'), there is no procedure for EA exit by a member state, only a procedure for leaving the EU (in Article 50 of the Treaty on the Functioning of the European Union, henceforth TFEU or 'the Treaty'). The absence of a procedure applies both to a member state choosing to leave and to a member state being expelled. From a Treaty perspective, Grexit would therefore be 'improvised'.

Grexit would likely take place in a context where Greece is no longer willing to make the minimum efforts necessary to be judged to be in compliance with the fiscal and structural reform demands of the Troika. Greece would not just have to fail to comply in substance, but would have to be sufficiently blatantly non-compliant to deprive the Troika of the fig-leaf of an 'honest-albeit-insufficient effort to comply'. Technically, given the lack of any Treaty-based mechanism to expel member states, Grexit would be voluntary, but it might well be triggered by diminished willingness on the part of the Troika to bend the rules to allow it to continue to pay out the tranches under the Greek Troika programme. A refusal by the ECB's Governing Council to continue to fund Greek banks at the Eurosystem or at the Greek ELA would likewise amount to an invitation for Grexit that would be hard to turn down.

## 3.1. Currency law

**A currency law would stipulate the conversion rates between the new Greek currency ('New Drachma') and the euro and convert existing euro-denominated contracts and financial instruments governed by Greek law into the New Drachma.**

Grexit would effectively start with the urgent passage of a currency law through an emergency decree by the Greek government of the day. This law would stipulate one or more conversion rates between the old and the new Greek currency (which we will call the 'New Drachma'). It is likely that at the same time capital controls would be introduced by Greece, aimed at stopping euro-denominated financial instruments covered by foreign law from leaving Greece.

Besides one or more rate(s) of conversion, the currency law would likely also specify that the new currency is legal tender for payment and settlement of debt in the 'relevant country', i.e. Greece, including for the payment of public and private debt obligations (including bank loans, deposits, and securities) and other contracts, including wage and pension contracts.[13]

The currency law would also be likely to convert existing (old) euro-denominated contracts and financial instruments (governed by Greek law) into New Drachmas. The currency law 'conversions' would only apply to contracts written under Greek law. Thus, for example, for sovereign debt issued under Greek law, principal and coupon payments, would be due in New Drachmas and creditors would have no realistic chance of success by seeking recourse in a foreign court.[14] If the bond were issued under foreign law, the exiting sovereign cannot change the currency of debt obligation by an act of law without giving creditors the option to seek recourse in the relevant foreign court.

[13] As Allen and Overy (2011) notes, the meaning of 'relevant country' in practice is not entirely clear, notably whether it would require (a) that the debtor be resident in the country, (b) that the payment needed to occur in the country, that both (a) and (b) need to be satisfied or that both the debtor and the creditor need to be resident in the country.

[14] They could, of course, seek recourse in the Greek courts, but are highly unlikely to be successful. Recourse to the EU's European Court of Justice or to the European Court of Human Rights (of the Council of Europe) would be possible, but would constitute a long shot, in our view.

As noted, there could be more than one official rate, e.g. one conversion rate to be applied to current account transactions, while another one would apply for some or all financial investment purposes. For example, as East Germany adopted the Deutsche Mark as legal tender on July 1, 1990, just ahead of German unification in October of the same year, the East German mark was converted at par for wages, prices, pensions and savings up to a limit of 4000 Mark/person. Financial claims, including corporate and housing loans, and savings in excess of 4000 Mark were converted at a ratio of 2:1.[15]

Market exchange rates, in an unofficial, offshore but possibly quite well organized market abroad or in an informal, parallel black or grey market in the exiting country, could deviate substantially from the specified rates of conversion.

We do not have a full overview of the jurisdictions under which Greek debt and other financial contracts were written. Here, we attempt to provide estimates based on the publicly available information on the law under which Greek debt and other financial contracts were written.

**Excluding the Troika loans (which are issued under English law), just under 7% of Greek sovereign debt was issued under foreign law.**

First, for sovereign debt Buchheit and Gulati (2010) note that at end-April 2010 around €25bn of Greek sovereign debt outstanding was issued under foreign law. Since then, at most €5bn of this debt has been redeemed, leaving around €20bn of foreign law bonds and bills. Most of this debt is under English law, with a small share under Swiss, Japanese and New York law. To that we have to add the €73bn that so far has been paid as part of the Greek loan agreements with the EA/IMF, which were written under English law. So just under €95bn or 26% of Greek general government debt out of a total of around €360bn was issued under foreign law, while the remainder was issued under Greek law. Excluding the Greek loan facility (and the accompanying IMF stand-by agreement), just under 7% of Greek debt was issued under foreign law.[16]

To estimate the extent of foreign-law issued financial and non-financial corporate debt, we rely on two sources. First, the BIS Securities statistics publish the amount of international issuance of debt securities. International issuance, as defined by the BIS, implies issuance abroad, issuance in foreign currency domestically or issuance in domestic currency domestically, but aimed at foreign investors. The convention for such corporate issuance is to issue debt under foreign law.

[15] The limit on savings was 2000 Mark/person for children below the age of 15, and 6000 Mark/person for adults over the age of 59. Money acquired in the year of unification was converted at a rate of 3:1.

[16] We also checked the available data on governing law for bonds listed on Bloomberg. The information is available for just under three quarters (by value) of all Greek bills and bonds listed there (€211bn out of a total of €283bn). Of those just under 95% of all Greek debt were issued under Greek law, a little below but very close to the fraction implied by the calculations provided in the text once we remember that the Greek loan facility is not included in the Bloomberg data. If we assumed that all Greek sovereign bonds physically located in a Greek depository at issuance (bonds with an ISIN number starting with 'GR') were issued under Greek law, while the remainder was issued under foreign law, 93.4% of bonds would be under Greek law (covering all €283bn of outstanding bonds on BB) – exactly the same as our estimate in the text.

**Figure 6. Greece – Amounts (bn EUR) and share (%) of sovereign debt under domestic and foreign law**

| | based on Buchheit and Gulati (2010) | | Bloomberg, version 1 | | Bloomberg, version 2 | | Bloomberg, version 3 | |
|---|---|---|---|---|---|---|---|---|
| | *bn EUR* | *% of total* | *bn EUR* | *% of total* | *bn EUR* | *% of total* | *bn EUR* | *% of total* |
| Domestic | 267.0 | 74% | 198.5 | 57% | 198.5 | 57% | 198.5 | 57% |
| Domestic (est.) | | | | | 56.0 | 16% | 56.0 | 16% |
| Foreign (bonds & IMF/EU loans) | 20.0 | 6% | | | | | | |
| IMF SBA and EA Greek Loan Facility | 73.0 | 20% | 73.0 | 21% | 73.0 | 21% | 73.0 | 21% |
| Foreign (est.) | | | | | 6.9 | 2% | 7.8 | 2% |
| English | | | 11.0 | 3% | 11.0 | 3% | 11.0 | 3% |
| Swiss | | | 0.5 | 0% | 0.5 | 0% | 0.5 | 0% |
| Japanese | | | 0.5 | 0% | 0.5 | 0% | 0.5 | 0% |
| Italian | | | 0.2 | 0% | 0.2 | 0% | 0.2 | 0% |
| Not available | | | 63.8 | 18% | 0.9 | 0% | | |
| Total | 360.0 | 100% | 347.5 | 100% | 347.5 | 100% | 347.5 | 100% |

Note: Under 'Bloomberg, version 1', we take the information on the governing law for all bonds for which such information is provided on Bloomberg. 'Bloomberg, version 2' assumes that for bonds listed on Bloomberg with missing information on law of issuance, all Greek sovereign bonds physically located in a Greek depository at issuance (bonds with an ISIN number starting with 'GR') were issued under Greek law (*Domestic (est.)*), while the remainder was issued under foreign law (*Foreign (est.)*). 'Bloomberg, version 3' in addition assumes that bonds for which no ISIN number was available and that are denominated in foreign currency were issued under foreign law, while euro-denominated Greek bonds without ISIN numbers and without information on the Governing Law.
Source: Buchheit and Gulati (2010), Bloomberg and CIRA

**For corporate bonds, the proportion of foreign-law issued debt is much higher, plausibly above 90%.**

The BIS data as of the end of September 2011 (the latest available) indicate outstanding Greek international debt issuance of USD208bn (EUR155bn at end-Sep-11 exchange rates) by financial corporations and USD12bn (EUR9bn) by non-financial corporates. By comparison, domestic outstanding issuance of debt securities by financial corporations amounted to USD115bn in Q2 2011 (the latest available data, also from the BIS) and to less than USD0.1bn for Greek non-financial corporates. Domestic issuance of corporate debt securities therefore accounted for around 35% of debt issuance for Greek financial corporations and less than 1% for Greek corporates.

**Figure 7. Greece – Debt of financial corporations under domestic and foreign law**

| | BIS | | BB, 1st version | | BB, 2nd version | |
|---|---|---|---|---|---|---|
| | *bn EUR* | *% of total* | *bn EUR* | *% of total* | *bn EUR* | *% of total* |
| Domestic | 114.8 | 36% | 1.0 | 1% | 1.0 | 1% |
| Foreign | 208.2 | 64% | | | | |
| Foreign (dual) | | | 13.4 | 16% | 13.4 | 16% |
| Foreign (est.) | | | | | 51.4 | 61% |
| English | | | 18.5 | 22% | 18.5 | 22% |
| Not available | | | 51.4 | 61% | | |
| Total | 323.0 | 100% | 84.3 | 100% | 84.3 | 100% |

Note: BIS data as of end-September 2011. The 'Foreign' category in the BIS version refers to international debt securities issued, whereby international issuance is defined as issuance abroad, issuance domestically, but in foreign currency, and issuance domestically and in domestic currency, but aimed at foreign investors.

BB, 1st version shows amounts outstanding for bonds listed on Bloomberg with information on governing law. BB, 2nd version assumes that for bonds listed on Bloomberg where information on the governing law is missing, all Greek sovereign bonds physically located in a Greek depository at issuance (bonds with an ISIN number starting with 'GR') were issued under Greek law, while the remainder was issued under foreign law (*Foreign (est)). Foreign (dual)* refers to bonds issued under both domestic and foreign law (according to Bloomberg).

Source: BIS, Bloomberg and CIRA

Second, Bloomberg lists the governing law for a subset of the securities it carries. For Greek non-financial corporate bonds, the Bloomberg data show that out of a total of EUR4.8bn, EUR2.5bn were issued under English law, EUR0.5bn under New York law and less than EUR0.01bn under Greek law, while no information was available for the remainder (EUR1.9bn) – suggesting almost 100% foreign law issuance.[17] For financial corporations, no explicit information was available for EUR51.4bn of the bonds. For bonds with available information, the split was EUR1.0bn Greek law vs. EUR31.9bn foreign law, implying 97% foreign law issuance.[18]

**Figure 8. Greece – Debt of non-financial corporations under domestic and foreign law**

| | BIS | | BB, 1st version | | BB, 2nd version | | BB, 3rd version | |
|---|---|---|---|---|---|---|---|---|
| | *bn EUR* | *% of total* | *bn EUR* | *% of total* | *bn EUR* | *% of total* | *bn EUR* | *% of total* |
| Domestic | 0.1 | 1% | 0.0 | 0% | 0.0 | 0% | 0.0 | 0% |
| Domestic (est.) | | | | | 1.5 | 32% | 1.5 | 32% |
| Foreign | 12.0 | 99% | | | | | | |
| Foreign (est.) | | | | | 0.2 | 4% | 0.4 | 8% |
| New York | | | 0.5 | 10% | 0.5 | 10% | 0.5 | 10% |
| English | | | 2.5 | 51% | 2.5 | 51% | 2.5 | 51% |
| Not Available | | | 1.9 | 39% | 0.2 | 4% | 0.0 | 0% |
| Total | 12.1 | 100% | 4.8 | 100% | 4.8 | 100% | 4.8 | 100% |

Note: BIS data as of end-September 2011. The 'Foreign' category in the BIS version refers to international debt securities issued, whereby international issuance is defined as issuance abroad, issuance domestically, but in foreign currency, and issuance domestically and in domestic currency, but aimed at foreign investors.

BB, 1st version shows amounts outstanding for bonds listed on Bloomberg with information on governing law. BB, 2nd version assumes that for bonds listed on Bloomberg where information on the governing law is missing, all Greek sovereign bonds physically located in a Greek depository at issuance (bonds with an ISIN number starting with 'GR') were issued under Greek law, while the remainder was issued under foreign law (*Foreign (est)).* BB, 3rd version, in addition to assumptions in 2nd version, assumes that bonds denominated in foreign currency were issued under foreign law.

Source: BIS, Bloomberg and CIRA

As we want to err on the side of prudence (i.e. not underestimating the amount of Greek debt issued under foreign law), we assume that all internationally issued debt securities were issued under foreign law, while we assume that all domestically issued debt securities were issued under Greek law.

In principle, a foreign-issued bond should offer substantial protection to creditors. In practice, the case may be much less clear, however, especially for creditors of Greek private entities governed by foreign law. This is because, as Allen and Overy (2011) note, the (Greek) debtor may file for insolvency following Grexit. In most jurisdictions, including the UK, France, Germany, Spain, Switzerland, Norway, Italy, Austria, Denmark and the US – Greece is not mentioned explicitly – private debt payable in foreign currency becomes converted into local currency at the time of when insolvency proceedings are started. For corporates with a large currency mismatch between the two sides of their balance sheet, default and insolvency may be unavoidable. For others, further deterioration of economic circumstances may have similar consequences. In that case, the distinction between foreign and domestic law may often be of largely theoretical importance, except for exposure to the sovereign.

## 3.2. Capital controls and exchange rate regime

**It is highly likely that Grexit would be accompanied by the imposition of strict capital controls.**

In our view, it is highly likely that Grexit would be accompanied by the imposition of strict capital controls. True, the Treaty (Art. 63) forbids any restrictions on capital or payment flows between EU member states, but we think that an exiting country, facing massive disruptions in its international capital account transactions would need to impose strict capital and foreign exchange controls following exit if some semblance

[17] If we assumed that bonds that lack information on the governing law, are i) issued under Greek law if their ISIN number begins with 'GR', ii) are issued under foreign law if they do not have an ISIN number, but are issued in foreign currency, the share of Greek law corporate debt is higher (32%).

[18] We include bonds issued both under Greek and foreign law under foreign law bonds, as holders of these bonds presumably have recourse to the foreign courts. If we assume in addition that bonds that lack information on the governing law are issued under Greek law if their ISIN number begins with 'GR' and under foreign law otherwise, foreign law issuance goes up further to 99%.

of financial order is to be maintained.[19] Both Argentina and Iceland imposed capital controls in response to their currency crises in 2001 and 2007/8, respectively.

In fact, despite the clear language of Art 63 and the lack of any explicit provisions to allow capital controls against EU member states, let alone between countries in the EA, even in the case of emergency, it could be argued that temporary capital controls are consistent with the Treaty, under the emergency provisions contained in Articles 346, 347, 348 and 352 invoking the threat of war, serious internal disturbances and other unforeseen contingencies as grounds for overriding Treaty clauses and other legislation.[20] But consistent with the Treaty or not, capital controls would surely be part of any but the most disorderly Greek EA exit scenarios.

It is likely that the New Drachma would float in the immediate aftermath of Grexit. Without significant foreign exchange reserves and cut off from external credit, any attempt by the Greek authorities to peg the exchange rate shortly after EA exit would likely be ill-fated. Over a horizon of a few years, it is however likely that some attempt would be made to re-peg the New Drachma – the currency of a small and fairly open economy (as regards trade in goods and services) – to the currency of its major trading partners. That would most likely mean pegging to the euro though it could not be ruled out that instead a basket that heavily featured the euro would be chosen or that the New Drachma would be allowed to continue floating.[21]

## 3.3. EU membership

**We expect Greece to remain in the EU even in the event of EA exit.**

It is possible that Greece would exit not just the EA but also the EU as part of an eruption of populism and nationalism. The recent German proposal to transfer substantial fiscal sovereignty to an EU budget commissioner has probably raised the likelihood of this scenario. However, if a Greek exit takes place as a result of a failure to agree on the terms and conditions of additional financing offered to Greece, we consider it likely that Greece would remain in the EU, even though, as noted earlier, some interpretations of the Treaty consider EA exit and capital controls to be inconsistent with EU membership.[22] Even if Greece post-EA exit remained within the EU, it is likely that it would temporarily lose some prerogatives, including voting rights for certain decisions. The status of EU Funds, including Structural and Cohesion Funds, would also be uncertain and much would depend on the nature of a Greek exit.

[19] Article 63 TFEU:

*"1. Within the framework of the provisions set out in this Chapter, all restrictions on the movement of capital between Member States and between Member States and third countries shall be prohibited.*

*2. Within the framework of the provisions set out in this Chapter, all restrictions on payments between Member States and between Member States and third countries shall be prohibited."*

[20] Article 66 does allow the Council, on a proposal from the Commission and after consulting the ECB, to temporarily impose capital control *against non-EU countries*. But the possibility of even temporarily and in an emergency imposing capital controls within the EU, let alone within the EA does not appear explicitly in the Treaty.

[21] In most recent cases of currency crises, countries chose to return to a 'managed float' regime after their prior currency crises and a period of letting their exchange rates float freely. This was true in Mexico after its 1994 crisis, and in Russia, Thailand and Indonesia after their 1997/98 crises. Others, such as Korea post-1997 have opted more or less for a 'freely floating' regime.

[22] For example, Athanassiou (2009) argues that EA exit would also imply EU exit.

### 3.4. Credit event and ratings default

**Grexit is virtually certain to be associated with a credit event and a 'default' rating by the rating agencies.**

Grexit is virtually certain to be associated with a credit event and a 'default' rating by the rating agencies, whether Greek sovereign debt is redenominated or not. Redenomination itself would be sufficient reason for triggering CDS and for a 'default' rating – a redenomination was not contemplated in the original Greek bond covenants and the New Drachma would be likely to depreciate sharply vis-a-vis versus the euro). If Greek sovereign debt were not redenominated, the timing of a ratings default or a credit event might depend on whether the restructuring with PSI currently being negotiated has already been implemented. If PSI has not yet been implemented, a credit event and ratings default would be a virtual certainty as soon as the next coupon or interest payment was due.[23] If PSI has already been implemented (PSI implementation is virtually certain to imply a 'selective default' or 'default' rating by S&P and Moody's, and in our base case also a credit event by the regional determinations committee of ISDA), a further (or prolonged) credit event or ratings default may be averted for a little while. The reason would be that following 'successful' PSI, Greek debt refinancing requirements would be zero ex-bail-out debt owed to bilateral EA creditors and the IMF for a longer period, potentially around 10 years (ECB-held debt is uncertain at this stage). Interest payments would not be zero (and given the likely large depreciation of the New Drachma could be painfully high) and neither would other financing requirements (from a continuing larger-than-officially-predicted primary deficit to unrealistically optimistic assumptions about privatization revenues), so another credit event or ratings default could happen sooner rather than later.

# 4. Direct exposures to Greece

## 4.1. Exchange rates: How far would the New Drachma fall?

**Following Grexit, the New Drachma could depreciate between 50-70% vis-à-vis the Euro.**

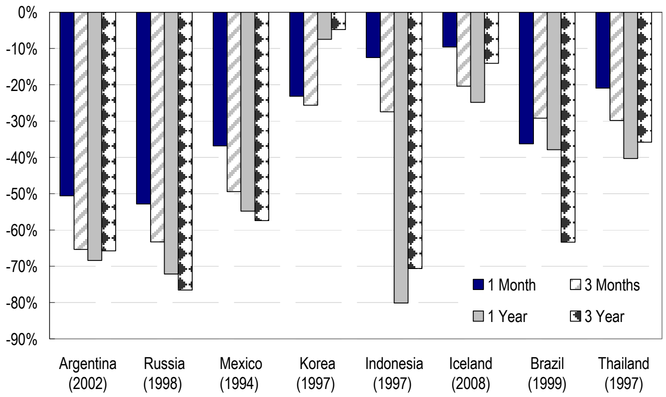
Following Grexit, a large depreciation of the newly established New Drachma versus the euro is to be expected. The scale of the likely depreciation is rather hard to pin down, but in our view the experience of past currency and balance of payments, banking and sovereign debt crises can provide some guidance on the orders of magnitude of the nominal exchange rate depreciation that should be expected. Figure 9 and Figure 10 depict the responses of the nominal exchange (vs the euro for Iceland, vs the USD for all others) and the nominal effective (trade-weighted) exchange rate for 8 relatively recent currency crises. In most cases, the resulting depreciation was very large. In Indonesia, the one-year depreciation of the rupiah vs the dollar was roughly 80%, while depreciation rates exceeded 50% in four of the eight crises depicted. The average depreciation rate in this sample was 48% after one year, with the bulk of the depreciation (39%) taking place within the first three months. Only in Korea and Thailand could we observe a tendency for the nominal exchange rate to appreciate again in the following years, i.e. there was very limited evidence for nominal exchange rate overshooting.

In nominal effective (trade-weighted) terms, depreciations were somewhat smaller (the average depreciation across our sample was 34% over the year following the crisis, with just over half of that change occurring in the first month). One of the main reasons for the difference in the scale of the response of the nominal exchange rate vis-à-vis the US dollar and the nominal effective exchange rate is the US dollar's status of a safe-haven currency. This meant that during these crisis episodes, the dollar tended to appreciate, and with it the other currencies of the

[23] If you doubt this, we have some Greek bonds to sell you.

informal 'dollar bloc' that are tightly or loosely tied to the dollar, thus increasing the depreciation of the crisis-afflicted currencies vis-à-vis the US dollar.

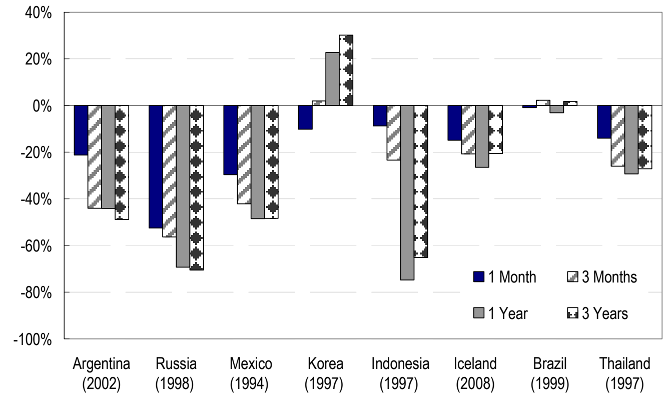
**Figure 9. Selected countries – Nominal exchange rate depreciation after crisis (%)**




Note: Nominal depreciation relative to EUR for Iceland, relative USD for all others.

Source: Wall Street Journal, Haver Analytics and CIRA

**Figure 10. Selected countries – Nominal effective exchange rate depreciation after crisis (%)**



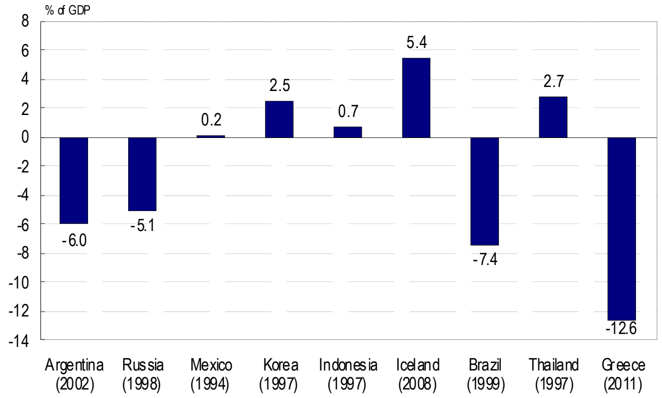

Note: Broad effective exchange rate, which is a trade-weighted average of a large sample of bilateral exchange rates.

Source: BIS and Citi Investment Research and Analysis

Greece's economic fundamentals are comparable, and in some cases markedly worse than those of this sample of countries during the period leading up to their respective crises. For example, although many of these countries had large public debt and ran large fiscal deficits just before their crises, none in this sample quite managed to match the 12.6% of GDP level for the general government deficit that we estimate for Greece in 2011 or the 165% of GDP for general government gross debt (see Figure 11 and Figure 12).[24] We estimate that Greece's current account deficit in 2011 amounted to 9.2% of GDP, higher than that of any country in our comparison sample bar Iceland. The same is true for Greece's gross international liabilities (193% of GDP in 2010), gross external debt (180% of GDP in 2010), or net international investment position (gross external assets minus gross external liabilities, -92.4% of GDP in Greece in 2010).

[24] Recently, several news agencies reported that the Greek government expects the general government deficit for 2011 to be between 9.1% and 9.4% of GDP.

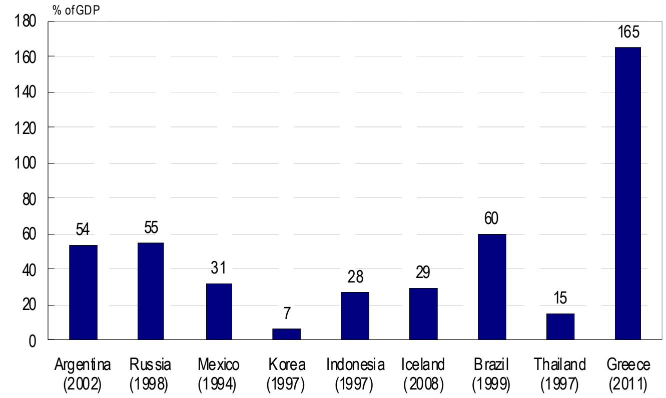
**Figure 11. Selected Countries – Budget Deficit (% of GDP), year preceding crisis**




Note: Central Government Balance for Indonesia, General Government for the rest

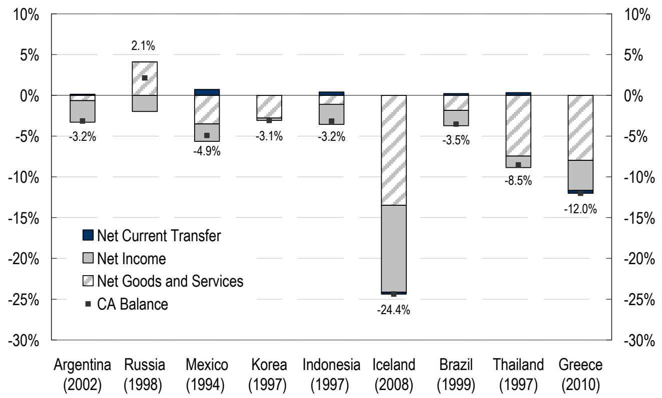
Sources: National sources for Russia and Indonesia, IMF WEO for the rest, and CIRA

**Figure 12. Selected Countries – General Government Debt (% of GDP), year preceding crisis**



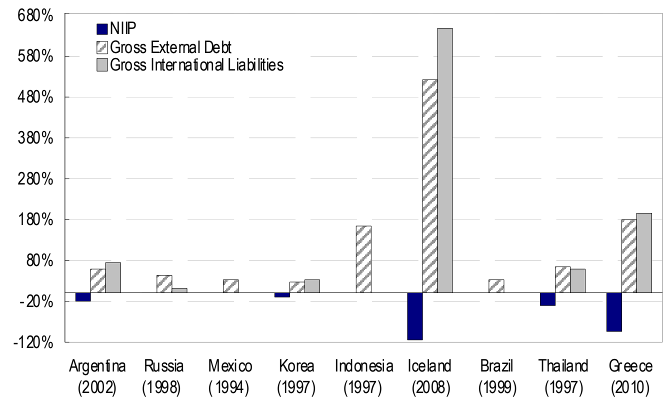

Source: IMF IFS and Citi Investment Research and Analysis

**Figure 13. Selected Countries – Composition of Current Account (% of GDP) 1 year before crisis**




Source: IMF and CIRA

**Figure 14. Selected countries – Net foreign asset position before crisis (% of GDP)**




Note: Net International Investment Position (NIIP) is Gross international assets minus gross international liabilities

Source: National Central Banks, IMF and CIRA

There are also few reasons to suspect that the inflation outlook for Greece would be materially more benign than for the sample of countries with currency crises in the past that we consider here. The primary general government balance, i.e. the general government financial deficit excluding net interest payments, is still expected to be in substantial deficit in 2012 (it is estimated to have been 3.5% of GDP in 2011), indicating the likely need to use the printing presses to fill the budget gap – assuming that new issuance of Greek sovereign debt (either New Drachma denominated or in foreign currency) in the international markets or, without the assistance of financial repression, in the domestic market, would be very limited in the first few years following exit.[25]

[25] Indeed, as the Greek sovereign is unlikely to default on all its liabilities (as we noted in Section 3.1, just under €95bn or 26% of Greek general government debt was issued under foreign law, while the remainder was issued under Greek law. The Greek Loan Facility and the IMF account for about €73 bn of this. If the Greek sovereign were to try to continue debt service on some or all of the foreign

The inflationary consequences of attempting to fund a given real resource gap by issuing central bank money (base money) depend on the demand for real central bank money and its responsiveness to expected inflation and/or short nominal interest rates. The lack of credibility that comes with a central bank without a recent track record (and a rather poor historical one excluding the EA membership period and the period leading up to EA membership) plus the limited degree of independence likely to be granted to the post-exit Greek central bank would further add weight to the view that avoiding hyperinflation would count as an achievement in the case of Greece. Combining these factors, we consider a 50-70% nominal depreciation of the New Drachma relative to the euro to be a reasonable forecast range.

Heightened risk aversion (including, at least temporarily following Grexit, an increased fear of future more wide-spread EA break-up) and some flight to safe-havens outside the EA, as well as likely additional easing measures by the ECB in a Grexit scenario imply that the euro would likely fall relative to the dollar and other safe-haven currencies, such as the Swiss franc, the Japanese yen or even Sterling. In 2008, the maximum depreciation of the euro against the dollar was around 25%. Even with a likely tumultuous run-up to Grexit, we consider this to be the likely upper bound of euro depreciation vis-à-vis the US dollar, with a persistent depreciation of possibly around 10% more plausible, taking into account both structurally looser monetary policy and lower real growth in the EA post-Grexit, but also the removal of one source of risk (the ‘Greek question’).

## 4.2. Assets: Capital gains and los(s)es

Private foreign holdings of Greek assets have fallen sharply since 2008.

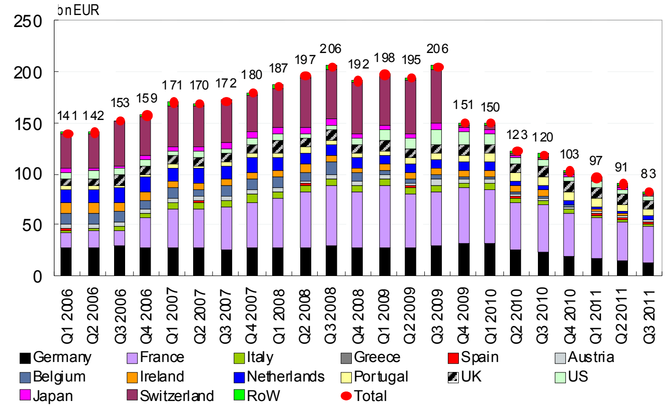
### 4.2.1. Cross-border assets of banks

**Gross exposure of EA banks to all sectors in Greece has fallen to at most EUR83bn or 0.5% of GDP.**

There is reasonably complete information on Greek assets held by foreign banks. According to BIS data, total claims at the end of Q3 2011 (the latest available data) stood at EUR83bn. These data include holdings of debt and equity securities, as well as loans or deposits held. Cross-border claims by banks have fallen by around 60% in euro terms from the highs of over EUR200bn reached in 2008/9. EUR65bn of the total remaining EUR83bn was exposure of EA banks in Q3 2011, of which French (EUR36bn) and German banks (EUR14bn) accounted for more than three quarters. Relative to GDP, Portugal’s gross exposure stands out at just over 3.5% of GDP, with France at half that level and the EA average at around 0.5% of GDP.

currency debt following exit default on the domestic currency debt, the primary deficit of the government would understate its post-exit funding needs.

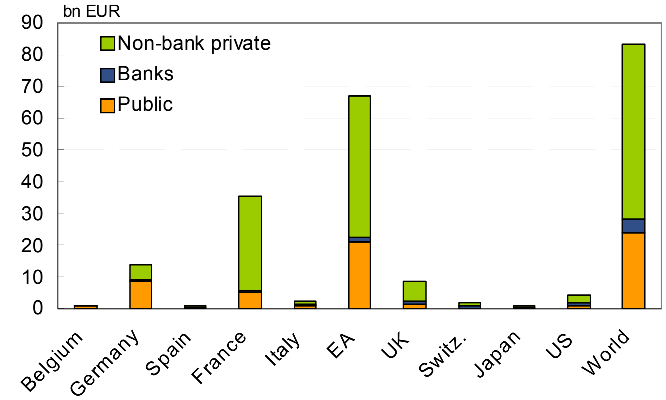
**Figure 15. Greece – Total cross-border claims of foreign banks (bn EUR), 2006 – 2011**




Note: Note: Cross-border on-balance sheet financial claims on Greece. Other exposures, including derivatives exposure is not included. RoW – Rest of World. Data on Italian claims are missing from Q4 2006 to Q2 2007, and for these periods the values are interpolated.

Source: BIS and Citi Investment Research and Analysis

**Figure 16. Greece- Cross-border claims of foreign banks by sector (bn EUR), Q3 2011**




Source: BIS and Citi Investment Research and Analysis

In terms of sectors, the bulk of the exposure (around two-thirds or EUR74.4bn in Q3 2011) is to the Greek non-bank private sector, partly through Greek subsidiaries of foreign banks, while the public sector accounts for just under 30% of the exposure and Greek banks for the rest.

**Remaining gross exposure still much overstates impact of Grexit on foreign banks.**

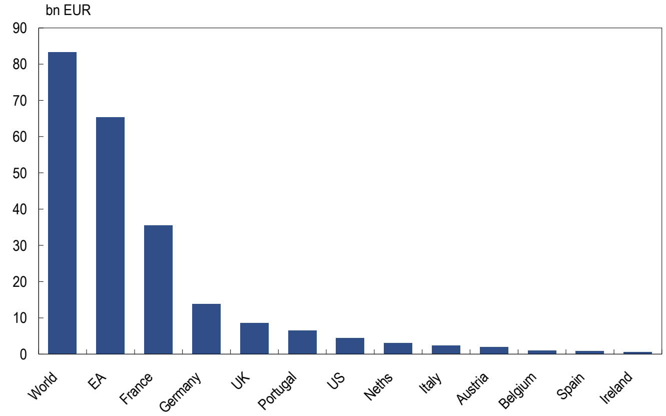
These amounts are relatively small, but they likely still overstate the maximum direct exposure of European banks to Greek debtors through Grexit for three reasons. First, foreign banks have likely continued to shed Greek assets since Q3 2011. Second, the BIS data likely do not capture any of the impairments taken on Greek sovereign holdings by European banks after Q3 2011.[26] Third, the reference point to calculate the incremental damage that Grexit could impose on European banks would have to incorporate additional impairments that are likely as a result of a successful PSI – and indeed for future impairments that would occur even if Greece remained in the EA. The fact that Portuguese banks in particular seem to have a large exposure to Greece which has not come down in the same ways as in other EA countries, combined with evidence that Portuguese banks have been rather slow in writing down the value of their holdings of Greek sovereign bonds suggests that the reference values to calculate maximum Portuguese bank exposure to Grexit following a successful PSI and the associated unavoidable writing down of Greek sovereign exposures by the Portuguese banks, would be much lower than the headline figure. The same applies, though to a much smaller extent, to French banks.

Against that, derivative exposure to Greece is not included in these data. According to the BIS, as of end of September 2011, 'other exposures' amounted to USD74.6bn, which includes total bank guarantees (EUR43bn), derivative exposure (EUR6.4bn) and credit commitments (EUR6bn).[27]

[26] The BIS recommends banks report their holdings at book or market value.

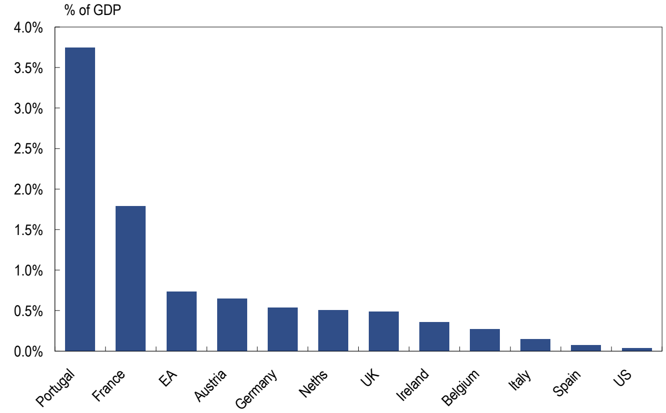
[27] In the BIS data, derivative exposure is valued at 'fair value', while credit commitments and guarantees are recorded in terms of gross nominal commitments.

Figure 17. Selected countries - Cross-border bank claims on Greece (bn EUR), September 2011




Source: BIS and Citi Investment Research and Analysis

Figure 18. Selected countries - Cross-border bank claims on Greece (% of GDP), September 2011




Source: BIS and Citi Investment Research and Analysis

### 4.2.2. Greek bailout loans and ECB lending

**Eurosystem lending to Greek banks amounted to EUR78bn in November 2011, and ELA lending by the Bank of Greece stood at EUR55bn.**

**The Troika has paid out EUR73bn out of a total of EUR110 so far. The official contribution to the 2nd bailout is likely to be around EUR130-145bn.**

**The ECB's SMP holdings of Greek sovereign are likely around EUR60bn at face value.**

Eurosystem lending to Greek banks excluding emergency liquidity assistance (ELA) reached EUR78bn in November 2011. ELA funding is in principle guaranteed by the sovereign. With an insolvent sovereign, as in the case of Greece, ELA exposure may well become an exposure of the Eurosystem. Greek ELA stands at around EUR55bn currently.

So far, the Greek government has received EUR73bn out of the total EUR110bn in the combined EA/IMF bail-out facility, of which EUR53bn (out of a total of EUR80bn) was from EA countries and EUR20bn (total: EUR30bn) from the IMF. The next tranche (€5bn, of which €3.6bn EA, €1.4bn IMF), which was originally due in January, would likely be combined with the tranche (€10bn, €7.3bn EA, €2.7bn IMF) that was to be paid out in March according to the original disbursement schedule The October 2011 proposal for the 2nd Greek bailout program included around EUR130bn of additional official financing, of which at least EUR30bn would be due at the outset.[28]

In addition, the ECB has bought Greek bonds as part of its Securities Markets Programme (SMP). The ECB does not publish which securities it bought, at what price or from whom, but we estimate that it spent around EUR47bn on Greek bonds to purchase EUR60bn at face value.

### 4.2.3. CPIS data on portfolio equity and debt

The IMF carries out a survey of bilateral assets and liabilities of portfolio equity (excluding FDI) and portfolio debt (excluding loans and deposits) and publishes the data in its Coordinated Portfolio Investment Survey (CPIS) database. The coverage of the data is limited, both by time (it is carried out annually now, the latest one available is from end-2010) and by countries (it covers mostly the advanced economies and there are plenty of gaps). Being aware of the many deficiencies of these data, they still offer some insight into the country composition of Greece's external liabilities. As of end-2010, Greek (gross) portfolio equity liabilities to most countries were dwarfed by Greek (gross) portfolio debt liabilities. In a subset of the coverage comprising the EA, UK, Switzerland, Japan, US, and Turkey, US holdings of Greek equity accounted for 45% of the total, with the UK (13%), France (8%), Luxembourg (6%), and Spain (5%) following. For debt securities, the composition mirrors that of the BIS data on bank holdings.

[28] Suggestions that the additional official financing would have to be higher than €130bn have become more frequent – €145bn is a commonly quoted figure.

### 4.2.4. Did we miss anything: Aggregate data on asset positions

**Most of the total financial exposures of foreign investors to Greece are captured in the BIS data or are official commitments. Some additional exposure to the sovereign, Greek banks and through derivatives remain.**

The bilateral data on foreign holdings of Greek assets have some gaps. Notably, we only have relatively timely data on holdings of Greek assets by foreign banks and by the EA official sector, leaving foreign non-official non-bank investors and foreign non-EA official investors off the map. Other aggregate data sources can help shed some light on what the combined scale of these exposures could be even though we would not be able to say more about the geographical composition of the asset holdings.

Thus, according to data from the Greek central bank, total Greek external financial liabilities stood at EUR418bn at end-June 2011. These data cover liabilities to non-banks and across all assets classes, including FDI, portfolio equity, loans and debt securities.

Of the EUR418bn in external liabilities, EUR20bn was equity (FDI and portfolio equity) and EUR394bn was debt. Of the EUR394bn Greek external debt, EUR174bn was debt of the general government, EUR108bn were debts of Greek banks, EUR15bn were debts of corporates, EUR101bn were debts of the Greek central bank. Importantly, these exposures are not marked to market and therefore grossly overestimate the likely additional hit from Grexit.[29]

Let's go through these data to see whether there is much that we missed in our calculations of the exposure implied by the BIS banking statistics and those of the ECB/Eurosystem and the Troika.

First, the EUR174bn of external general government debt. According to Bloomberg data, up to €8bn of what was outstanding at end-September 2011 has matured since then.[30] An additional €20bn has been lent by the Troika, bringing the current total to maybe EUR186-190bn, assuming that foreign holders of Greek debt have since held on to their holdings. Of that EUR186-190bn, the Greek Loan Facility and the IMF account for €73bn and non-Greek banks for maybe €55-60bn (holdings of EA banks were €53bn according to EBA data at end-September and BIS data indicate that non-EA banks account for around 20% of total bank exposure to Greece, across the Greek public, banking and non-bank private sector). That would leave at most €68bn. Some of that is held by the ECB/Eurosystem outside of the Bank of Greece. Assuming that the Eurosystem holds around €55bn at face value (which is below our own estimate of EUR60bn) of which €15bn is on the books of the Bank of Greece, only €28bn is left as the maximum residual non-bank, non-ECB, non-Troika exposure to the Greek general government.

The external debt of the Greek central bank is entirely accounted for by its Target 2 liabilities which are a subset of total Eurosystem exposure.

[29] There are various additional material differences between the two BIS databases that we use. First, liabilities are not marked to market here. Second, this dataset does not consolidate intra-firm exposure, i.e. in the language of the BIS banking statistics, it is not done on an ultimate risk basis.

[30] According to Bloomberg data, bonds with issuance amounts totaling €14.9bn matured between June 2011 and today (€6.8bbn 20 August 2011, €1.2bn on 12 December 2011, €1.0bn on 22 Dec 2011, €5.2bn 29 December 2011, €0.7bn on 30 December 2011). We have no information on the outstanding amounts just ahead of maturity.

**Figure 19. Greece – overview of exposures of foreign investors to Greece**

| | Bank exposure | | | | | ECB/Eurosystem and Bank of Greece | | | | | | External financial liabilities | | | | | CIPS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Public | Banks | Non-bank private | Total (excl. other exposure) | Other exposure | ECB capital shares (adj. for Greece) | SMP | Eurosystem lending | ELA | Greek Loan Facility | IMF | General Government | Banks | Non-bank private sector | FDI | Portfolio Equity | Equity Securities | Debt Securities |
| | *bn EUR* | *bn EUR* | *bn EUR* | *bn EUR* | *bn EUR* | *%* | *bn EUR* | *bn EUR* | *bn EUR* | *bn EUR* | *bn EUR* | *bn EUR* | *bn EUR* | *bn EUR* | *bn EUR* | *bn EUR* | *bn EUR* | *bn EUR* |
| | *Q3-2011* | *Q3-2011* | *Q3-2011* | *Q3-2011* | *Q3-2011* | *current* | *end-2011* | *Nov-2011* | *Nov-2011* | *end-2011* | *end-2011* | *Q3-2011* | *Q3-2011* | *Q3-2011* | *Q3-2011* | *Q3-2011* | *2010 or latest available* | *2010 or latest available* |
| | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* | *(6)* | *(7)* | *(8)* | *(9)* | *(10)* | *(11)* | *(12)* | *(13)* | *(14)* | *(15)* | *(16)* | *(17)* | *(18)* |
| Germany | 8.4 | 0.7 | 4.7 | 13.8 | 3.2 | 27.8 | | 20.4 | 15.7 | 14.7 | | | | | | | 0.4 | 30.1 |
| France | 5.3 | 0.4 | 29.7 | 35.5 | 5.8 | 20.9 | | 15.3 | 11.8 | 11.1 | | | | | | | 0.8 | 32.4 |
| Italy | 1.0 | 0.1 | 1.2 | 2.3 | 1.3 | 18.4 | | 13.5 | 10.3 | 9.7 | | | | | | | 0.2 | 4.2 |
| Spain | 0.3 | 0.0 | 0.4 | 0.8 | 0.3 | 12.2 | | 9.0 | 6.9 | 6.5 | | | | | | | 0.5 | 8.1 |
| Netherlands | na | na | na | 3.1 | na | 5.9 | | 4.3 | 3.3 | 3.1 | | | | | | | 0.4 | 6.4 |
| Portugal | na | na | na | 6.5 | na | 2.6 | | 1.9 | 1.4 | 1.4 | | | | | | | 0.0 | 5.3 |
| Belgium | 1.0 | 0.0 | 0.0 | 1.0 | 0.1 | 3.6 | | 2.6 | 2.0 | 1.9 | | | | | | | 0.2 | 7.3 |
| Austria | na | na | na | 1.9 | na | 2.9 | | 2.1 | 1.6 | 1.5 | | | | | | | 0.0 | 4.2 |
| Slovakia | na | na | na | na | na | 0.5 | | 0.4 | 0.3 | 0.3 | | | | | | | 0.0 | 0.9 |
| Finland | na | na | na | na | na | 1.8 | | 1.4 | 1.0 | 1.0 | | | | | | | 0.1 | 1.8 |
| Ireland | na | na | na | 0.6 | na | 1.6 | | 1.2 | 0.9 | 0.9 | | | | | | | 0.4 | 2.4 |
| Slovenia | na | na | na | na | na | 1.0 | | 0.7 | 0.6 | 0.5 | | | | | | | 0.0 | 0.5 |
| Estonia | na | na | na | na | na | 0.3 | | 0.2 | 0.1 | 0.1 | | | | | | | 0.0 | 0.0 |
| Cyprus | na | na | na | na | na | 0.2 | | 0.1 | 0.1 | 0.1 | | | | | | | 0.1 | 14.4 |
| Luxembourg | na | na | na | na | na | 0.3 | | 0.2 | 0.1 | 0.1 | | | | | | | 0.6 | 5.2 |
| Malta | na | na | na | na | na | 0.1 | | 0.1 | 0.1 | 0.0 | | | | | | | na | 0.4 |
| EA total | 20.9 | 1.7 | 44.5 | 67.1 | 13.1 | | | | | | | | | | | | 3.7 | 123.4 |
| European banks | 22.6 | 3.0 | 51.8 | 77.5 | 24.0 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Switzerland | 0.2 | 0.6 | 1.0 | 1.8 | 1.1 | | | | | | | | | | | | 0.1 | 1.0 |
| UK | 1.6 | 0.7 | 6.3 | 8.6 | 9.8 | | | | | | | | | | | | 1.3 | 6.5 |
| Japan | 0.1 | 0.3 | 0.5 | 0.9 | 0.0 | | | | | | | | | | | | 0.3 | 0.4 |
| US | 1.1 | 0.9 | 2.4 | 4.4 | 31.1 | | | | | | | | | | | | 4.6 | 0.7 |
| Turkey | na | 0.1 | 0.0 | 0.1 | na | | | | | | | | | | | | 0.0 | 0.1 |
| **Total** | **23.8** | **4.2** | **55.1** | **83.2** | **55.2** | | **60.0** | **73.4** | **56.2** | **52.9** | **20.1** | **174** | **108** | **15** | **19.8** | **6.7** | **10.1** | **132.0** |

Note: Columns (1)-(4) show cross-border financial on-balance sheet claims by BIS-reporting foreign banks on Greece; column (5) shows other exposure (derivatives, guarantees, and credit commitments). Columns (8)-(9) distribute foreign support for Greece among EA members according to their ECB capital shares (which are adjusted to sum to 100% excluding Greece in column (6)). ELA is emergency liquidity assistance which is technically guaranteed by the Greek sovereign, but under Greek insolvency may end up as exposure of the Eurosystem.

Source: BIS for columns (1)-(5); ECB, EU and IMF for columns (6)-(11); Bank of Greece for columns (12) - (16); IMF CIPS for columns (17) and (18)

That leaves exposure to Greek banks and the Greek non-bank private sector. The Bank of Greece data show that there is €19.8bn of FDI (in both banks and non-bank FDI) outstanding as well as portfolio equity of EUR6.7bn (EUR1.0bn MFIs, EUR5.6bn non-banks).

Banks have external liabilities of €108bn outstanding as 'loans, currency and deposits'. Data from the Joint External Debt Hub (JEDH) are only available up to the end of Q2 2011. At end-Q2 this entry stood at €110.7bn compared to €108.0bn in Q3), which is consistent with the Bank of Greece data. The JEDH data provide more granularity, and suggest this debt is mostly short-term currency and deposits (€90.0bn), with smaller amounts designated as 'long-term currency and deposits'(€13.6bn) and 'long-term loans' (€7.2bn). Of the last entry, some is presumably captured in the BIS data. Non-banks owe a further €6.0bn in bonds, EUR8.8bn in loans, and EUR0.7bn in trade credits. As we do not have detailed information on the exact nature of these positions, we cannot assess the likely loss exposure with much confidence. However, it is highly likely that the amounts in this paragraph, while still relatively small, again grossly overstate the actual loss resulting from Grexit.

Another area where a lack of transparency prevents full confidence in our ability to assess the likely exposure to Greece lies in derivative exposures, notably those through writing credit insurance on the Greek sovereign. BIS data include such exposures for banks, but bilateral data on non-bank exposures (e.g. by insurance companies is not available). Aggregate data from the DTCC indicates that total exposures are rather modest, with net notional amounts for CDS written on the Greek sovereign at USD3.2bn currently (the gross notional stood at USD69bn). Most CDS contracts are also collateralised, reducing exposures further and indicate that derivative exposure is also unlikely to be a major source of financial instability post-Grexit.

**Figure 20. Selected counties – Exports to Greece, 2010**

| | % of GDP | % of exports |
|---|---|---|
| Austria | 0.2% | 0.5% |
| Belgium | 0.5% | 0.6% |
| Cyprus | 1.4% | 24.5% |
| Estonia | 0.0% | 0.1% |
| Finland | 0.1% | 0.4% |
| France | 0.1% | 0.7% |
| Germany | 0.2% | 0.7% |
| Greece | 0.0% | 0.0% |
| Ireland | 0.2% | 0.4% |
| Italy | 0.4% | 1.6% |
| Luxembourg | 0.2% | 0.7% |
| Malta | 0.1% | 0.6% |
| Netherlands | 0.5% | 0.6% |
| Portugal | 0.1% | 0.3% |
| Slovakia | 0.3% | 0.4% |
| Slovenia | 0.2% | 0.3% |
| Spain | 0.2% | 0.9% |
| World | 0.0% | 0.4% |
| UK | 0.1% | 0.5% |
| US | 0.0% | 0.1% |
| Japan | 0.0% | 0.1% |
| EMs | 0.0% | 0.4% |
| LatAm | 0.0% | 0.1% |
| Africa | na | 0.1% |
| China | 0.1% | 0.3% |
| Middle East | na | 0.7% |

Note: Merchandise trade only

Source: IMF DOTS and CIRA

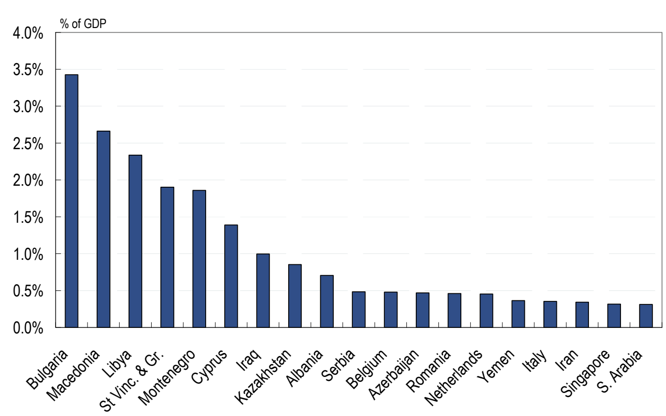
## 4.3. Trade

The direct impact of Grexit on output in the rest of the EA or globally would likely be small. Greece plays a very small, and still decreasing role in world effective demand and represents a very low share of world imports. Greece imports accounted for less than 0.1% of world GDP and less than 0.5% of world imports in 2010 and these numbers have fallen further in 2011, as we estimate Greek imports to have fallen by almost 10% in 2011, while world trade has continued to grow. Again, it is useful to remind ourselves of the importance of the counterfactual: we expect a further 10% fall in Greek imports over the next two years even under our base case scenario of continued Greek EA membership.

Even the direct regional effects are likely to be small. Of course, Greece's neighbours are more exposed. For Cyprus, Greece accounts for almost a quarter of exports, but even there exports to Greece only account for 1.5% of Cyprus's GDP. For Germany, the largest exporter of goods to Greece by value in 2010, Greece accounts for 0.7% of total exports and 0.2% of GDP. For Italy, the second-largest exporter to Greece by value, the Greek market is somewhat more important at 1.6% of total exports and 0.4% of GDP, and any incremental reduction in external demand is likely to be painful given the prospect of a deep recession in Italy in the near term even in our base case. For most other countries in the euro area, a Greek import collapse would seem to be a manageable inconvenience.

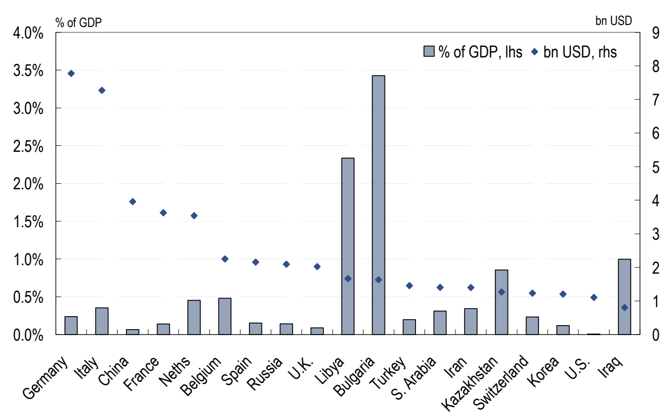
Given the limited integration of Greece into regional or global supply chains, the supply effects of Grexit on world output or trade would also likely be minor.

**Figure 21. Largest Exporters to Greece by % of GDP, 2010**




Source: IMFDOT and CIRA

**Figure 22. Largest Exporters to Greece by value, 2010**




Source: IMFDOT and CIRA

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## Notes

## Notes

## Notes

# Appendix A-1

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