

## A way out of the EMU fiscal crisis

- In the wake of the global financial crisis, the peripheral economies of the Euro area are left with large fiscal deficits and rapidly rising levels of public debt. Intense market skepticism is now calling into question the solvency of these sovereigns.
- We believe that there is a reasonable path to debt sustainability without potentially very disruptive debt restructuring. This path requires the periphery to deliver the considerable fiscal consolidations already promised. However, a good faith effort will not prove successful if sovereigns need to return to market financing in 2013. A long period of liquidity support at a subsidized borrowing cost is also required.
- This proposal rests on the recognition that solvency is itself a function of the rate at which sovereigns can borrow. Debt dynamics are highly sensitive to borrowing rates. For example, if Greece and Ireland were forced to borrow at market rates after 2013, the level of debt would grow rapidly, reaching 184% and 155% of GDP by 2020, respectively. By contrast, if borrowing rates were subsidized to, say, 100bp above German rates, debt ratios would quickly stabilize and start to move down, reaching 125% and 113% of GDP by 2020, respectively. A similar calculus applies to Portugal and Spain.
- It is encouraging that Euro area leaders agreed at this week's EU summit to establish a permanent liquidity providing vehicle, when the legal authority of the EFSF expires. It is crucial that this vehicle is designed to insure that liquidity is provided at a subsidized borrowing rate. At the moment, liquidity support is being provided at a borrowing rate of around 350bp over Germany. Sustained at this spread, it is unlikely that all periphery countries will achieve debt sustainability.
- The cost of the large improvement in debt dynamics at borrowing rates 100bp over Germany represents a fiscal transfer. However the cost is modest. We estimate the present value of the implicit cost of such a subsidy, if used to completely fund Greece, Ireland, Portugal, and Spain through 2020 to be €11bn, or just 2.5% of the combined GDP of Germany and France.
- Aggressive fiscal consolidation is imperative under any scenario (even default and debt restructuring). A shortfall would stress the political resolve of those subsidizing the liquidity support and would risk pushing the peripheral economies into the market for funding at an unsustainable cost.
- To avoid moral hazard concerns, the borrowing cost of the liquidity support should be made conditional on good-faith efforts toward fiscal consolidation. This would create a powerful incentive for the borrowing nations to stay the course in reducing deficits, while also giving added insurance to the subsidizing nations—which would likely promote a more willing buy-in.



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## A way out of the Euro area fiscal crisis

Recent developments highlight growing concerns about the credibility of the current plan to exit the Euro area sovereign crisis. These concerns are related to the size of the fiscal adjustments that lie ahead for many countries in the region. Simply to balance their primary positions, the peripheral sovereigns—Spain, Portugal, Ireland, and Greece—have to narrow their primary deficits by as much as 10%-pts of GDP or more from this year’s level. Even the core countries in the region have work to do. Thus, a sustained political commitment to tighter fiscal policy will be a necessary condition to exit the current crisis.

However, this commitment is not a sufficient condition. Even governments making a good-faith effort could see their plans go awry if the macroeconomic backdrop turns sharply negative. There is a risk that fiscal tightening creates a negative feedback loop as it produces slower growth, which then increases the discretionary fiscal adjustment that is needed. In addition, further bank recapitalizations—reflecting losses that have not yet been recognized or further losses that arise due to weak growth—could add to outstanding public sector debt levels.

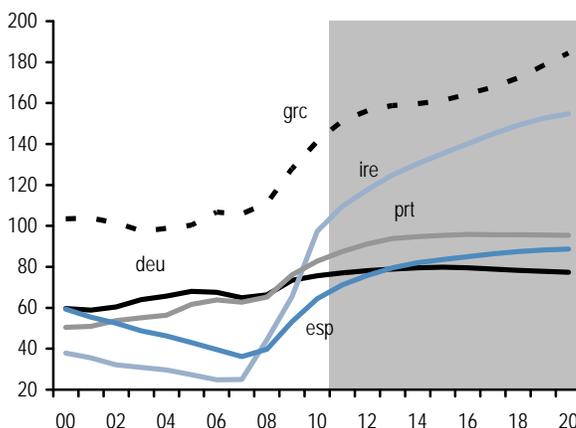
### Tighter fiscal policy necessary, but not sufficient

### Required fiscal adjustment highly sensitive to borrowing cost

By far the greatest risk facing a government embarking on a sustained path of fiscal consolidation is a sharp rise in borrowing costs. Countries with large deficits and debt rollovers will find their fiscal positions highly sensitive to market interest rates. Rising interest rates, in turn, alter the required fiscal adjustment. The speed and momentum with which this market dynamic moves can shift perceptions of a country’s fundamental ability to meet its obligations. The example of Greece is instructive. Given an anticipated debt-to-GDP ratio of around 160% by 2015, Greece needs to generate a sizable primary surplus in order to reaccess capital markets. The current EC/IMF program anticipates that Greece will reach a primary surplus of 6% of GDP in 2014. Our estimates suggest that this outcome would produce a significant fall in Greece’s debt-to-GDP ratio if interest rates are subsidized. But, at current market rates of close to 10%, Greece is not on a path that would produce medium-term debt sustainability.

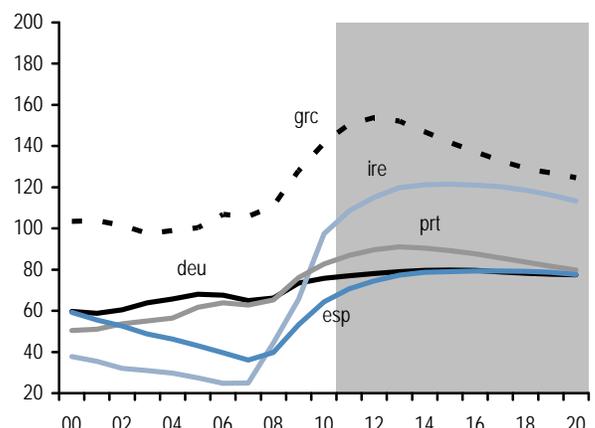
Gross debt of the general government at market rates

% of GDP; J.P. Morgan fcst shaded



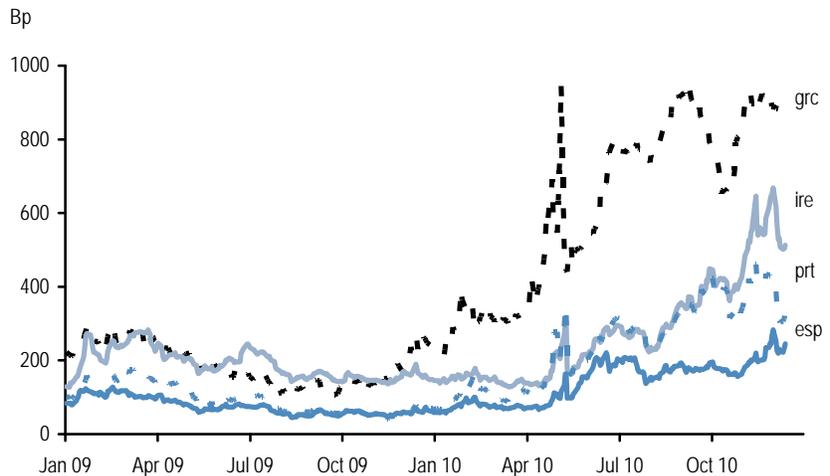
Gross debt of the general government at subsidized rates

% of GDP; J.P. Morgan fcst shaded



Note. Both charts are based on the projections outlined in this report for the primary fiscal position and nominal GDP growth. The chart on the left assumes the marginal borrowing rate is capped by the EFSF at 6% through 2013 but then returns to the current market rate as implied by futures prices. The chart on the right assumes the marginal borrowing rate is capped at 100bp above the German borrowing rate beginning in 2011.

Sovereign 10-year debt yield spread to German bunds



**Uncertainty about EFSF replacement; markets place high likelihood on some restructuring**

The crisis management regime put in place in May is not well designed to deal with the medium-term nature of the current fiscal adjustment path. The EFSF has a limited capacity to lend—caused by the pro-rata guarantee structure—and is due to expire in the middle of 2013. Although the average maturity of EFSF loans is a relatively long 7.5 years, the average borrowing cost is relatively expensive at close to 6%. The region agreed at this week’s EU summit that the EFSF will be replaced by a permanent crisis resolution mechanism, but there is considerable uncertainty about exactly how the new regime will work. Given these features of the current liquidity facility, the uncertainty about private sector participation in the new regime post 2013, and the widely perceived political obstacles to fiscal transfers (either on a one-off basis or as part of a move to a deeper fiscal union), it is not surprising that financial markets place a high probability on a significant debt restructuring for the most vulnerable peripheral nations.

This report argues that the restructuring probabilities would fall sharply with a well-designed liquidity facility. It is quite likely that the region could exit the current crisis without a debt restructuring if a facility were available that would ensure that countries delivering a good faith effort on fiscal consolidation had their interest expenses capped. The easiest way to achieve this would be to cut the rate on current EFSF borrowing to a level well below 6%, and ensure that the replacement for the EFSF had a significantly larger lending capacity—by moving to joint guarantees of the debt issued—and also lent at a very subsidized rate. This would help to ensure that the bulk of the fiscal consolidation went toward improving the debt dynamics rather than to higher debt servicing.

**Liquidity support at subsidized rate easiest way to reduce borrowing costs**

The easiest way to achieve subsidized borrowing costs is through the liquidity providing vehicle—the EFSF and its successor—but it could also be achieved through the creation of an areawide debt management agency that issued Euro area supranational debt to meet the normal funding needs of sovereigns (the so-called E-bonds) or through bond purchases by the ECB. The idea of E-bonds seems problematic, since it reflects a centralization of government funding without anything else on the fiscal side being centralized. And, ECB bond purchases only work if financial markets believe that the current crisis is simply a problem of liquidity, and thus that central bank purchases would not lead to outright debt monetization. Regardless of

**Way out of crisis: subsidize the borrowing cost**

the reality, markets are understandably skeptical that this is just a liquidity problem, so an expanded role for the ECB is problematic.

Our view is that there is a reasonable path to debt sustainability without potentially very disruptive debt restructurings. This path requires both the considerable fiscal consolidations already agreed to and a long period of liquidity support at a subsidized borrowing cost. While subsidizing the borrowing cost of liquidity support is by no means politically easy, the alternative of direct fiscal transfers is even more politically challenging, and the alternative of debt restructuring is potentially much more disruptive and would not remove the need for significant fiscal consolidations in any event.

This way out of the EMU fiscal crisis is not without its risks. Significant fiscal consolidations are still needed across the periphery, and these will be painful. There are risks that growth will be too subdued and that political opposition will be too great to achieve what is needed. Moreover, it is important to recognize that a subsidized borrowing cost represents a far greater sharing of fiscal capacity than is currently on the table, even if it falls short of an explicit fiscal transfer. It clearly costs the countries providing the support something relative to the current system of liquidity provision—where the EFSF issues debt yielding just over 3% and onlends at close to 6%—but that is probably a price well worth paying. We estimate the present value of the implicit cost of such a subsidy, if used to completely fund Greece, Ireland, Portugal, and Spain through 2020 to be €11bn, or just 2.5% of the combined GDP of Germany and France. Such an implicit cost is almost certainly less than that of a more disruptive restructuring.

**Debt dynamics unsustainable at market rates beyond 2013****An unsustainable baseline scenario for sovereign debt**

The legacy of the global financial crisis has been a monumental rise in sovereign debt. In response to the violent deleveraging in the private sector during the recession, fiscal authorities supported aggregate demand by leveraging up at a pace not seen since World War II. Coupled with large-scale fiscal bailouts—primarily for the banking sector—public sector debt has surged. In the Euro area as a whole, the gross debt of the public sector has jumped from 66% of GDP in 2007 to 84% in 2010. The largest increases have been seen in Ireland (72%-pts), Greece (36%-pts), Spain (28%-pts), and Portugal (20%-pts).

**Fiscal projection: baseline scenario**

% of GDP

	Gross debt				Primary surplus			
	2007	2010	2015	2020	2007	2010	2015	2020
emu	67	85	93	94	2.3	-3.8	0.4	2.0
deu	65	76	80	77	3.0	-2.2	0.4	1.5
fra	64	83	89	88	0.0	-5.8	0.3	1.0
ita	104	119	119	118	3.5	-0.8	2.3	3.5
esp	36	64	84	89	3.5	-7.5	-1.0	2.5
bel	84	99	107	110	3.5	-1.1	-1.4	2.5
grc	106	141	161	184	-2.0	-2.2	5.8	5.8
ire	25	97	135	155	1.1	-15.0	-0.7	4.0
prt	63	83	95	95	0.0	-4.4	2.0	4.0
usa	62	88	104	106	-0.9	-9.5	-2.7	1.3
jpn	167	197	225	256	-1.9	-8.2	-5.1	-4.6
gbr	47	77	86	83	-0.8	-7.6	0.5	1.5

Note. Although only a subset of EMU countries is shown, the EMU aggregate reflects the values for the entire region. Gross debt figures are derived from fiscal, growth, and interest rate projections. Primary surplus projections 2011 through 2015 are from the IMF, World Economic Outlook, October 2010. Projections beyond 2015 are J.P. Morgan forecasts.

## GDP projections: baseline scenario

	GDP growth, %chg annualized						Output gap (% of GDP)			Potential GDP growth
	2011-2015			2016-2020			2011	2015	2020	
	Nominal	Real	Underlying, real	Nominal	Real	Underlying, real				
emu	3.4	1.8	2.4	3.2	1.5	1.7	-3.0	-0.6	0.0	1.4
deu	3.0	1.6	2.0	2.9	1.3	1.5	-0.9	0.0	0.0	1.3
fra	3.9	2.1	3.0	3.5	1.6	1.7	-3.5	-0.4	0.0	1.5
ita	3.3	1.5	1.9	3.1	1.1	1.2	-2.3	-0.3	0.0	1.0
esp	3.7	2.2	3.1	3.6	1.7	2.2	-6.1	-1.1	0.0	1.5
bel	4.1	2.0	1.9	3.7	1.6	2.2	-2.0	-0.1	0.0	1.6
grc	2.6	1.6	2.7	3.4	2.2	2.2	-9.6	-4.2	0.0	1.4
ire	3.4	2.4	4.4	4.5	2.6	3.3	-6.6	-3.1	0.0	2.0
prt	2.6	1.2	2.1	2.9	1.1	1.4	-3.4	-0.4	0.0	1.0
usa	4.7	3.1	4.1	4.2	2.3	2.9	-3.3	-0.2	0.0	2.3
jpn	1.5	1.7	2.2	1.6	1.2	1.2	-4.2	-0.8	0.0	1.0
gbr	4.6	2.4	3.5	4.1	1.8	1.9	-2.1	0.0	0.0	1.8

Note. Although only a subset of EMU countries is shown, the EMU aggregate reflects the values for the entire region. Underlying GDP growth is computed assuming a fiscal multiplier that transmits 70% (0.7) of fiscal thrust to real GDP growth, with fiscal thrust defined as the change in the primary deficit.

With a recovery now under way, fiscal consolidation is moving forward across the Euro area. Specifically:

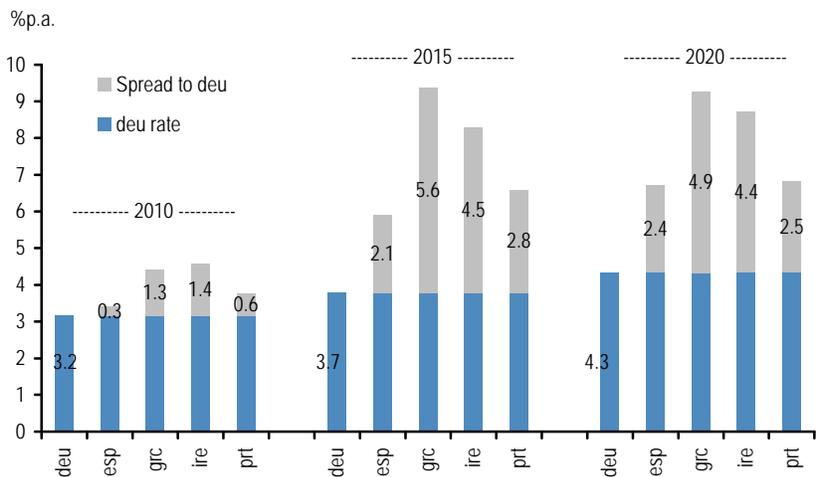
- **Primary balances to move up sharply in the periphery of the EMU.** Based on IMF projections through 2015, and our own estimates from 2016 to 2020, net lending excluding interest payments—the primary position—is projected to improve for the Euro area as a whole from a deficit of 3.8% of GDP in 2010 to a surplus of 0.4% of GDP in 2015, and then to rise further to a surplus of 2% by 2020. In response to intense market concerns, the most significant fiscal tightenings are occurring in the periphery of the Euro area. The primary surplus is projected by the IMF to improve by roughly 8%-pts in Greece by 2015 and by close to 15%-pts in Ireland, while Portugal and Spain are each projected to see about 6.5%-pts of consolidation. Outside of Greece, we expect fiscal consolidation to continue through the end of the decade, with the primary surplus reaching 4% in Ireland and Portugal, 2.5% in Spain, and 3.5% in Italy.

The impact of these actions on the path of public sector debt also depends on growth and interest rate outcomes. For growth, we assume that output gaps are closed only gradually over the coming decade. For borrowing costs, our baseline scenario assumes that Spain, Portugal, Greece, and Ireland have borrowing costs for rolling over existing debt and funding new issuance capped at 6% through 2013—essentially the borrowing rate of the EFSF—and are forced to borrow at market rates from 2014 to 2020. More specifically:

- **Fiscal tightening produces sluggish growth.** Aggressive adjustments in fiscal policy will weigh heavily on growth, with the Euro area as whole experiencing a sustained fiscal drag through the middle of this decade. Fiscal thrust—the change in the primary deficit—will average a negative 0.8%-pts of GDP per year from 2011 to 2015. Real GDP in the region is projected to expand 1.8% annualized over this period, just a bit above potential and still leaving an output gap of -0.6% by 2015. Assuming a fiscal multiplier of 0.7, this suggests that growth in underlying economic activity, which excludes the drag from fiscal tightening, will average 2.4% annualized. Combined with a modest degree of inflation near the ECB's target, nominal GDP is projected to rise at a 3.4% annualized pace through 2015. Beyond 2015, we expect real GDP in the region to expand at a slightly slower pace of 1.5% annualized through to 2020, a touch above trend but

#### Scenarios for debt depend on fiscal adjustment, growth, and borrowing rates

Average sovereign borrowing rate: baseline scenario



Note: Average borrowing rates are assumed to converge from the average borrowing rate as of 2010 (defined as the ratio of interest payments to gross debt) to market rates (based on current futures prices) at a pace of 33% per year to reflect the rolling over of maturing debt along with the funding of new issuance.

just enough to close the output gap. Nominal GDP over this period will average a 3.2% annualized gain. The sharper fiscal consolidations in the periphery of the Euro area will impact growth by considerably more. Real GDP is projected to rise by just 1.6% annualized in Greece over the coming five years, an above-trend pace but one that still leaves in place a huge negative output gap of -4.2% by 2015. This is then assumed to be closed over the next five years with continued above-trend growth. Growth in Ireland is somewhat stronger than in Greece given its relatively stronger potential rate of growth, rising at a 2.4% pace in the first half of the decade and a 2.6% pace in the second half, roughly 1/2%-pt above trend and enough to close the output gap by 2020. Spain is expected to average a 2.2% rate of real GDP growth in 2011 to 2015, while Portugal will post the weakest gain of the group, at just 1.2% annualized over this period. Modest inflation in the periphery will provide further lift to nominal GDP, aiding debt dynamics.

- Market rates punish the weakest links.** Along with the primary surplus and the nominal GDP growth paths, the evolution of debt as a share of GDP depends crucially on the rate at which sovereigns can borrow. The relevant interest rate for debt dynamics is not the current market rate, however, but the average rate paid on debt. Average borrowing rates as of 2010 are well below market rates, with a 4.5% rate in Greece, 4.6% in Ireland, 3.8% in Portugal, and 3.5% in Spain. However, given the large gross funding needs of these countries—from both rolling over maturing debt and new issuance to fund large current deficits—these average rates would converge to market rates fairly quickly in the absence of subsidized liquidity support. If these sovereigns were forced back into capital markets from 2013, average borrowing rates would begin to move up sharply. This is our baseline scenario, with average borrowing rates rising by 2015 to over 9% in Greece, over 8% in Ireland, and just under 7% in Portugal and Spain.

According to this baseline scenario, if peripheral EMU countries are forced back into the market before the fiscal adjustments have been completed, the cost of servicing debt would rise sharply and ultimately absorb much of the increased saving from fiscal consolidation. Consequently, in 2020, debt-to-GDP ratios would stand

Market rates beyond 2013 would adversely affect debt dynamics significantly

at 184% in Greece, 155% in Ireland, 95% in Portugal, and 89% in Spain. Moreover, under this baseline scenario, debt would still be rising at a rapid pace in Greece and Ireland.

## Interest rate path key to determining solvency

The baseline scenario is inherently unstable due to the feedback loop between interest rates and the path of debt. If the peripheral EMU countries are forced to face high market rates from 2014 onward, the path toward debt stabilization would be extended and would be fraught with risks. Any growth shortfall, or increased concern about the political commitment needed to complete the fiscal adjustments, would raise risk premia. Higher risk premia would add to borrowing costs—and push growth lower—thus reducing the likelihood of achieving solvency.

To gauge the sensitivity of the fiscal journeys to borrowing rates, we consider two alternative scenarios to the baseline scenario:

- **Scenario 2:** We assume that Greece, Ireland, Portugal, and Spain can borrow after 2013 at an **interest rate of 350bp over the market rate for Germany**. Given that this spread is fairly close to that of the current EFSF, this scenario essentially assumes that the liquidity vehicle that replaces the EFSF will lend on broadly the same terms, while also recognizing that the funding rates of the facility will be rising over the coming decade.
- **Scenario 3:** We assume that Greece, Ireland, Portugal, and Spain can borrow from now through 2020 at an **interest rate of 100bp over the market rate for Germany**. This scenario shows the debt trajectory if policymakers decided to cut the borrowing cost of the current EFSF lending to a significantly subsidized rate and ensured that the liquidity vehicle that replaces the EFSF in 2013 continued to lend at this very subsidized rate.

Containing borrowing costs at 100bp over Germany puts debt ratios for peripheral nations on a downward trajectory

Analysis of scenarios 2 and 3 reveals that if interest costs can be contained, the nature of the Euro area fiscal adjustment changes dramatically. Rather than asking the question of whether debt ratios can be stabilized, the issue becomes what level of the debt-to-GDP ratio is sustainable. Using 2015 as a reference point, in the baseline scenario—where rates rise to market levels quickly—the level of the primary balance required simply to keep the debt ratio from rising is even further above the aggressive balances already planned for Greece and Ireland. Greece would need an additional 2%-pts of GDP of fiscal tightening, while Ireland would need roughly 5%-pts of further tightening. Further consolidation would also be needed for Spain and Portugal on the order of 1 to 2%-pts of GDP. Simply extending the current lending terms of the EFSF—roughly 350bp above German rates—would improve Greece's fiscal outcome substantially, with the gross debt ratio on a downward trajectory by 2015. Debt ratios

Primary balance in 2015, forecast and required for debt sustainability  
% of GDP

	Forecast	Required to stabilize debt as share of GDP		
	Baseline	Baseline	Scenario 2	Scenario 3
esp	-1.0	0.4	0.4	-0.6
grc	5.8	7.6	3.2	0.1
ire	-0.7	4.5	2.3	-0.2
prt	2.0	2.6	2.6	0.8

Note. The baseline scenario assumes borrowing rates are capped at 6% through 2012 but then move to market rates thereafter. Scenario 2 assumes market rates are capped at 350bp above the German borrowing cost from now through 2020. Scenario 3 assumes market rates are capped at 100bp above the German borrowing cost from now through 2020.

### Gross debt under alternative interest rate subsidies relative to German borrowing rates % of GDP

	2010	2015			2020		
		Baseline	Scenario 2	Scenario 3	Baseline	Scenario 2	Scenario 3
esp	64	84	83	79	89	87	78
grc	141	161	151	142	184	153	125
ire	97	135	129	121	155	136	113
prt	83	95	95	89	95	95	80

Note. The baseline scenario assumes borrowing rates are capped at 6% through 2012 but then move to market rates thereafter. Scenario 2 assumes market rates are capped at 350bp above the German borrowing cost from now through 2020. Scenario 3 assumes market rates are capped at 100bp above the German borrowing cost from now through 2020.

would still be on the rise in Ireland, Portugal, and Spain, but at a less rapid pace. By contrast, debt dynamics are hugely improved if the lending terms are capped at 100bp above German rates, with the debt ratio falling rapidly in Greece as of 2015, declining in Portugal, and roughly stabilizing in Ireland and Spain by 2015.

With borrowing rates that are maintained 100bp above German rates (scenario 3), this analysis shows that existing budget plans will eventually bring debt-to-GDP ratios to more reasonable levels across the periphery of the Euro area. While Greece will still have a high level of debt through the end of this decade, a path of debt ratio reduction would be firmly in place. Indeed, the generation of primary surpluses would ensure that all of the peripheral countries were on track for further debt ratio reductions beyond 2020. At a borrowing cost of 100bp over Germany, along with the projected primary positions and nominal GDP growth rates, the gross debt ratio would be falling at a pace of 2.2%-pts every year after 2020 in Greece, 2.9%-pts in Ireland, and 1.9%-pts in Portugal. The pace of improvement is less impressive in Spain, where the fiscal consolidation planned, combined with a subsidized borrowing rate, will only generate a decline in the debt ratio of about 1%-pt per year in 2020 and beyond. Still, additional fiscal consolidation would not be a huge challenge when spread out over a period of years, an option made possible with subsidized rates. Thus, there appears to be a path that can push debt ratios back to a more acceptable level over a reasonable time horizon.

#### Moral hazard limited by linking borrowing rates to pace of fiscal adjustment

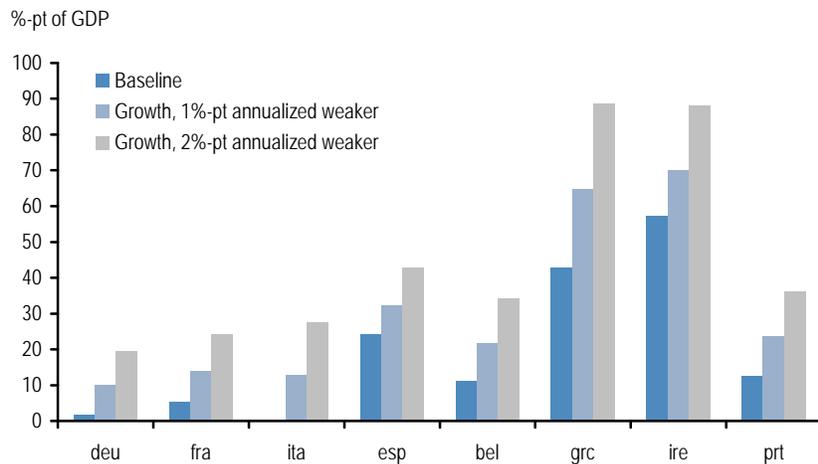
Although liquidity support is being provided currently at an interest rate that is below the market rate for each respective borrower, it is not an especially subsidized rate. The spread between rate the EFSF pays on issued debt and the rate at which it lends is around 350bp. No doubt, the reluctance to subsidize the borrowing cost of the liquidity support is the potential moral hazard this creates. Remaining on track in improving primary positions is the greatest risk to debt sustainability. Easier lending costs, while being key to aiding in debt sustainability, at the same time could ease the pressure on governments to continue to engage in fiscal consolidation. One simple solution to this problem is to make the subsidized borrowing rate conditional on good-faith efforts toward fiscal consolidation. This is precisely how the market should work. Our argument is that the current market rate has mispriced

### Annual change in gross debt under alternative spreads to German borrowing rate %-pt of GDP

	Baseline		Scenario 2		Scenario 3	
	2015	2020	2015	2020	2015	2020
esp	1.4	0.4	1.3	0.4	0.4	-0.9
grc	1.6	6.1	-2.3	1.9	-5.2	-2.2
ire	5.0	2.3	2.6	0.3	0.3	-2.9
prt	0.6	-0.2	0.6	-0.1	-1.2	-1.9

Note. The baseline scenario assumes borrowing rates are capped at 6% through 2012 but then move to market rates thereafter. Scenario 2 assumes market rates are capped at 350bp above the German borrowing cost from now through 2020. Scenario 3 assumes market rates are capped at 100bp above the German borrowing cost from now through 2020.

Change in gross debt under alternative growth outcomes, 2011-2020



the true risk. But, this does not mean that there is no risk at all, nor that this risk should not be repriced as it changes.

The EFSF facility could appropriately price risks based on past moves in rates (during less tumultuous periods) and apply them to the conditionality of the subsidized rate. The benefits of this would be twofold. First, it would provide an incentive to the borrowing sovereigns. It would give policymakers in these countries the motivation to adhere to fiscal consolidation as well as provide a clear message that could be used to calm political pressure. Second, it would provide a type of insurance to the creditors of the program and thus lead to a larger buy-in.

### Implementation and growth remain big risks

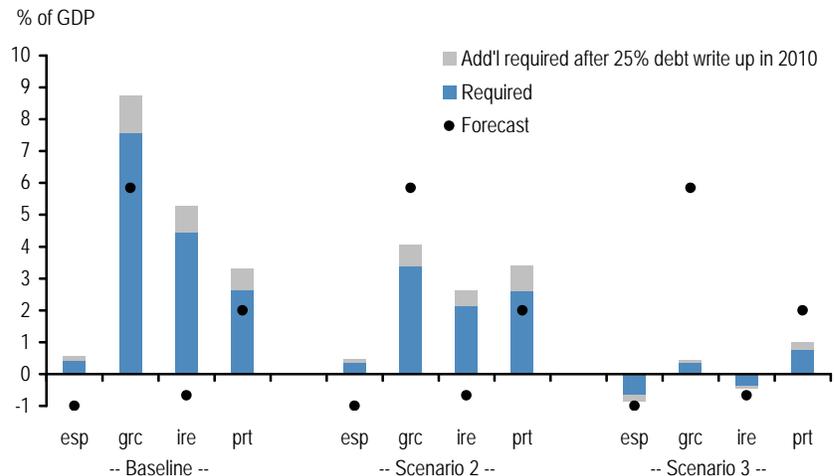
In addition to the sensitivities to the borrowing rate, the stability of fiscal conditions in the periphery rests equally heavily on the progress made toward fiscal consolidation and the pace of economic growth. A shortfall in implementing the austerity measures laid out in the Stability and Growth Plans of the peripheral Euro area economies is perhaps the most damaging downside risk. To be sure, this would result in an easing in the fiscal drag weighing on growth. However, given the intensity of market pessimism, a failure to adhere to the agreed-upon budget paths would surely lift market rates by far more than any resulting improvement in growth, and, more importantly, threaten the willingness of the core Euro area economies to continue funding the liquidity facilities. This would push the peripheral economies back into the market to search for funding at considerably more difficult borrowing rates.

Thus, the costs of failing to implement fiscal tightening are simply too high. While there is still a very long and challenging road ahead, this year has seen impressive progress in implementing fiscal tightening measures. Moving forward, any “low-lying fruit” will have been picked, making continued consolidation increasingly difficult. It thus remains to be seen whether policymakers are able to convince their populations that the costs of failure outweigh any potential near-term gains.

While perhaps less damaging than a failure to improve fiscal lending positions, a shortfall in growth could also destabilize fiscal conditions. Our growth projections, while being relatively subdued, could still prove to be too strong. In the event, the

**Growth and implementation risks can be mitigated by subsidized borrowing costs**

Primary surplus in 2015 required to stabilize debt beyond 2015



Note. The baseline scenario assumes borrowing rates are capped at 6% through 2012 but then move to market rates thereafter. Scenario 2 assumes market rates are capped at 350bp above the German borrowing cost from now through 2020. Scenario 3 assumes market rates are capped at 100bp above the German borrowing cost from now through 2020.

pace of improvement in lending and debt positions relative to GDP would be damped, while the political risks around implementing further fiscal consolidation would be amplified. In terms of the direct impact on debt, gauging a growth shortfall is relatively straightforward since it is the gap between the interest rate paid and the rate of nominal GDP growth that matters for debt dynamics. The impact of a 1%-pt weaker pace of annualized growth on the change in debt as share of GDP is identical to that of a 1%-pt higher interest rate. Thus, a 1%-pt shortfall in growth—or a 1%-pt higher interest rate—would lift the yearly change in debt (or reduce the pace of decline) by 1%-pt of GDP, scaled by the current level of debt. That is, if debt were equal to 100% of GDP, then the shortfall would raise the change in debt by 1%-pt per year. If debt were 150%, it would raise the change by 1.5%-pts year. While these do not seem large, they do cumulate. So 1%-pt less annualized growth in GDP from 2011 to 2020 could add roughly 10%-pts of GDP to the debt ratio.

This symmetry between growth and interest rate outcomes, along with the interaction with the pace of fiscal consolidation, underscores the importance of maintaining a low borrowing rate. For the peripheral Euro area countries, a 1%-pt shortfall on the fiscal consolidation plans would lead to a roughly 10%-pt larger rise in debt as a share of GDP between 2010 and 2020. This is similar in magnitude to a 1%-pt rise in the borrowing rate (or 1%-pt less on nominal GDP growth). Put differently, a 1%-pt additional subsidization of the interest rate would be enough to accommodate either a 1%-pt shortfall in growth or a 1%-pt shortfall in fiscal consolidation over the next decade. Given that less aggressive fiscal tightening would actually lift growth somewhat, the impact of a subsidized borrowing rate is amplified.

**Further bank recapitalization could drive up levels of outstanding debt**

**Bank recapitalization risks**

One concern at the moment is that debt levels could rise significantly further due to additional bank recapitalizations, beyond those incorporated in the current fiscal plans. This could occur either because losses from the recession have not yet been fully recognized, or because a weak macro landscape generates further losses. In fact, the impact of additional bank recapitalizations on debt sustainability is not that

large if debt stabilization is the only goal. A 25%-pts of GDP increase in gross debt would roughly add less than a percentage point to the level of the surplus required for stabilizing the level of debt relative to GDP. Moreover, if rates were subsidized, the impact on the required primary surplus would be less than 1/2%-pt. And, if rates were pushed down to the level of nominal GDP growth, debt write-ups would have no effect on the primary position needed to stabilize the debt level.

Of course, the more debt is written up, the more likely it is that markets will not just accept stabilizing the debt ratio at an elevated level, but will rather require a return to something significantly lower. But, here again, if rates are reasonable, even a modest primary surplus can make considerable progress in reducing debt levels over time. While a drawn-out path to work down the current debt ratios may seem challenging, it is important to recognize that the painful part of fiscal consolidation is the adjustment of the primary position, not the time it takes to reduce the debt ratio once a primary surplus has been achieved. That is, it is the change in the primary position that effects GDP growth, not its level.

### Liquidity support beyond 2013

The analysis above highlights the sensitivity of debt sustainability to borrowing rates. Simply put, market concerns over debt sustainability—legitimate or not—can easily drive borrowing rates up to such an extent that investor sentiment can become the largest determinant of a fiscal crisis. As long as continued progress in fiscal consolidation can be assured, this suggests that ongoing liquidity support with a low borrowing cost is the easiest path toward debt sustainability.

**A new liquidity providing vehicle will be established to replace the EFSF**

At present the existing liquidity framework is able to cover the gross funding needs of Greece, Ireland, Portugal, and Spain through 2013. The lending capacity of the EFSF amounts to about €255 billion after accounting for the opt-outs of the peripherals and the required capital for maintaining AAA status. Combined with the EFSM (the EU BoP facility, €60 billion) and the IMF support (€250 billion), the total availability of funds from these sources is €565 billion. The gross funding needs of Ireland, Portugal, and Spain (maturing bond debt and new issuance to fund the deficit) is €441 billion through 2013. An additional €43 billion will likely be needed for Greece in 2013 once the bilateral aid program ends in 2012, bringing the funding needs to €484 billion. This leaves roughly €80 billion for any further bank recapitalizations. However, debt sustainability requires ongoing liquidity support well beyond 2013. The cumulative funding needs for these four countries rises to €739 billion by 2015.

The legal authority for the EFSF to issue debt expires in the middle of 2013. At this week's EU summit, an agreement was reached within the Euro area that a perma-

**Fiscal funding needs**  
€ bn, cumulative from 2011

	2011	2012	2013	2014	2015	EFSF/EFSM/IMF total lending capacity
ire (grc beginning 2013)	27	52	116	175	208	565
ire, prt (grc beginning 2013)	40	80	157	235	273	565
ire, prt, esp (grc beginning 2013)	154	301	485	643	739	565
ire, prt, esp, bel (grc beginning 2013)	188	382	605	798	930	565

Note. Funding needs include maturing bonds and new issuance to fund the deficit. T-bills are excluded as peripheral economies are already funding at reasonable rates in these markets. Greece is assumed to tap the EFSF/EFSM/IMF program when the bilateral aid ends in 2012. EFSF funding capacity is less than the full EUR440 billion given the capital needs to maintain AAA rating, and the capacity falls further if Italy were to tap the facility.

**But there is uncertainty about exactly how it will work**

ment crisis resolution mechanism would be set up—called the European Stability Mechanism (ESM)—which would provide liquidity support along the same lines as the EFSF. One interpretation of how the Euro area will transition from the current regime to the new regime—based on the end-November agreement—runs as follows. Any Euro area sovereign that needs liquidity support after the middle of 2013—to cover its gross funding needs—would be subjected to a debt sustainability analysis by the European Commission, the ECB, and the IMF. This would seek to determine whether the sovereign is suffering from a liquidity crisis or a solvency crisis. If it were deemed to be suffering from a liquidity crisis, then the ESM would provide liquidity support broadly on the same terms and conditions as the current EFSF (Ireland is receiving loans from the EFSF with an average maturity of 7.5 years and a borrowing cost of 6.05%, conditional on a path of aggressive fiscal consolidation). If, on the other hand, the sovereign were deemed to be suffering from a solvency crisis, it would have to negotiate a debt restructuring with its private creditors. The ESM may provide liquidity support during the restructuring if needed.

The decision that all new Euro area bonds will contain collective action clauses from mid-2013 is intended to highlight that private sector participation will be part of the new regime. Clearly, at the point at which some Euro area countries may transition from the current regime to the new regime, none of their bonds will contain collective action clauses. In our view, this doesn't matter. Most Euro area sovereign debt is subject to domestic law, which can be changed. Thus, even though collective action clauses cannot be evoked in mid-2013, debt restructuring could still take place along the lines outlined above.

**Decisions regarding private sector participation will be difficult**

While this much seems clear, there remains a huge amount of uncertainty, which continues to unsettle financial markets. Investors are very unsure how the current regime will transition into the new regime, and how decisions about private sector participation will be made. Distinguishing between a liquidity crisis and a solvency crisis is very difficult. The concept of debt sustainability is very imprecise. Neither economic theory nor economic history gives us a clear guide to the equilibrium configurations of primary positions and debt: much depends on history, credibility, and trust. Moreover, the question of whether a sovereign can move toward the equilibrium position depends on highly subjective judgments about how much fiscal tightening can be tolerated and what the growth environment will be. Finally, borrowing costs are a critical determinant of debt dynamics, so the cost of liquidity support, and the horizon over which it is available, makes a huge difference. It is far from clear how the decision about whether a sovereign is suffering from a liquidity crisis or a solvency crisis will be made. References to decisions being in line with “IMF practices” do not really add much clarity: the IMF itself finds such judgments hard to make.

In our view, it would be very helpful for the discussion about debt sustainability analysis and private sector participation to be delayed until the region had made far more progress in exiting the current crisis. Moreover, as outlined earlier, the most powerful contribution that the new regime could make to the region in exiting the current crisis would be for it to provide very subsidized borrowing rates.

**The implicit cost of subsidized borrowing rates**

The EFSF, and its replacement, has the potential to lead the periphery of the Euro

**Implicit cost of interest rate subsidy, assuming all funding needs are supported**

	Scenario 2					Scenario 3				
	€ bn			% of GDP		€ bn			% of GDP	
	2011-15	2016-20	Total	Own	Deu/Fra	2011-15	2016-20	Total	Own	Deu/Fra
esp	0	0	0	0.0	0.0	35	10	42	4.0	0.9
grc	14	6	17	7.5	0.4	28	12	36	15.6	0.8
ire	6	3	8	5.3	0.2	18	10	24	15.1	0.5
prt	0	0	0	0.0	0.0	7	2	9	5.3	0.2
grc,ire	20	9	25	6.6	0.6	46	21	60	15.4	1.3
grc,ire,prt	20	9	25	4.6	0.6	54	24	69	12.3	1.5
grc,ire,prt,esp	20	9	25	1.6	0.6	89	33	111	6.9	2.5

Note. Implicit cost defined as the net present value of the opportunity cost of earning the subsidized rate rather than the market rate, given by current market futures prices. Future costs are discounted using the market rate. We abstract from changes in the rate over the 10-year period and assume the market rate is equal to the average of the forward rates over the next 10 years (at the current duration of existing debt) and the subsidized rate is equal to the average of the German forward rates over the next 10 years at 8-year duration plus the spread given by the degree of the subsidy. Scenario 2 assumes market rates are capped at 350bp above the German borrowing cost from now through 2020. Scenario 3 assumes market rates are capped at 100bp above the German borrowing cost from now through 2020. Funding needs include the deficit and maturing bonds (not T-bills).

area down a path to debt sustainability by subsidizing their borrowing rates. There should be no doubt that rate subsidization is a fiscal transfer of sorts. However, it is the least costly transfer in that there is no explicit transfer of funds. The transfer is implicit in the opportunity cost of earning the subsidized rate rather than the existing market rate. If we assume that all the funding needs are supported by a multinational lending agency, and that subsidy costs are discounted by the market rate to recover the present value, the implicit cost from a subsidy of 100bp above German bunds (scenario 3) amounts to about €36 billion for Greece and €24 billion for Ireland (this includes funding needs beginning in 2011 and so counts some of the bilateral program for Greece). Funding Spain would carry an implicit cost of €42 billion, while Portugal carries a cost of about €9 billion. In total, funding all four carries an implicit cost of €111 billion.

**Subsidized borrowing represents a kind of fiscal transfer**

The implicit subsidy cost of funding the peripheral Euro area economies at 100bp above German bunds is thus equivalent to 6.9% of the peripheral Euro area's GDP, but is only 2.5% of the level of GDP in Germany and France. Assuming projections under this scenario come true, this would be a relatively small cost compared to that of a much more damaging restructuring or a direct fiscal transfer. Moreover, these implicit subsidy costs assume that the creditor nations would invest in the extremely risky borrowing nation's debt at a rate that would surely push those economies into insolvency. As such, the alternative to not subsidizing carries all the externalities not priced into the current market rate from a disruptive shock, the foremost being the potential for a restructuring to generate a recession.

If successful, a facility that supports borrowing rates to aid in the fiscal consolidation in the peripheral Euro area economies could easily become self-liquidating. Provided good-faith efforts are made toward improving fiscal positions, an outcome aided by the conditionality of the level at which borrowing rates are subsidized, market rates will decline. Over time, the liquidity facility could become more of a backstop. In the event, lending from the facility would decline and so too would the implicit subsidy costs.

**There are other ways that a fiscal transfer could be structured**

Although subsidizing borrowing rates is a form of fiscal transfer, there are alternative, more explicit forms of fiscal transfer. One way of sharing fiscal capacity is through a restructuring of official borrowing. In a few years, Greece and Ireland, and any other country that accesses the EFSF, will owe the rest of the region a significant amount of money, either directly in the case of Greece or indirectly via the

**Gross debt, 2010: 5%-pts of GDP transfer from core to peripheral**

% of GDP	J.P. Morgan fcst	Case 1	Case 2	Case 3
Core EMU: deu, fra	79	83	83	83
grc,ire	124	67		
grc,ire,prt	111		72	
grc,ire,prt,esp	81			67

EFSF. This debt could be restructured in a way that eases the burden on the peripheral countries, by extending the maturity of the loans into the distant future without any compensating increase in coupon payments.

A far more substantive sharing of fiscal capacity would be direct fiscal transfers. Even a relatively small transfer as a share of GDP from the core economies could go a long way to reducing debt ratios in the periphery. As an example, a 5% of GDP transfer from Germany and France would sharply reduce debt as a share of GDP in Greece, Ireland, and Portugal by roughly 40%-pts. Adding Spain to the group leads to a smaller but still significant 14%-pt reduction.

An equally radical possibility that is being debated at the moment is the idea of a Euro area bond, or E-bond, used to meet much if not all of the gross financing needs of the Euro area governments. This E-bond would essentially be a supranational debt instrument issued by an areawide debt management agency. It would resemble a permanent EFSF that provided funding in normal times rather than just in emergencies. It would also be a step closer to fiscal federalism in ceding some aspects of national fiscal authority to the region as a whole.

The challenge to any of these ideas of an increased sharing of fiscal capacity is the political willingness of the core to allow some degree of fiscal transfer to the periphery. A number of core countries appear unhappy with such an outcome. Whether, and to what extent, it happens depends on the alternatives. In our view, an aggressive restructuring of sovereign debt held in the markets would be viewed as an even worse outcome.

**Market debt restructuring should be the last option**

The discussion around whether or not any peripheral Euro area sovereign will restructure its debt often fails to distinguish two types of debt restructurings in which sovereigns can engage. Those commentators who believe that some of the peripheral sovereigns are insolvent are implicitly talking about an “involuntary” debt restructuring—often associated with default (i.e., a missed payment). This is an action taken in response to an inherent solvency problem: essentially, the NPV of the debt has to be significantly reduced because it is not possible for the sovereign to achieve debt sustainability in any other way. Recent examples of such debt restructurings include Russia, Ecuador, and Argentina. In the case of Russia and Argentina, NPVs were reduced by up to 75%.

Involuntary debt restructurings associated with insolvency cause a huge amount of damage—politically, financially, and economically. They are not zero sum games: they are highly negative sum games due to the destruction of equity capital in the financial sector. In the current environment, such restructurings would significantly stress the Euro area banking system, not only in the country undergoing the restructuring but also in the region as a whole, which would create significant economic

**Market debt restructuring is likely to be very disruptive given the fragility of the banking system**

**So the region should search for less disruptive alternatives; subsidized rates for longer is the most obvious and least costly**

weakness. Euro area policymakers have been unanimous in arguing that such a debt restructuring is not an acceptable way of exiting the current crisis, due to the risk of contagion and disruption. We agree with this judgment.

By contrast, a much less disruptive “voluntary” debt restructuring (reprofiling or liability management exercise) could be implemented as part of the exit from the current crisis. These actions are essentially a response to liquidity pressure and principally involve the maturity of the debt being extended. The decline in the NPV in such restructurings can be very modest. Recent examples of such debt restructurings include the Ukraine, Pakistan, Uruguay, and the Dominican Republic. In these cases, NPVs were marked down by less than 20%. But, by failing to change NPVs by much, such “voluntary” debt restructurings don’t alter the debt dynamics to a huge extent: they essentially provide a different form of liquidity support.

It is important to stress that significant fiscal consolidations are still needed, regardless of the type of debt restructuring that is engaged in. Peripheral Euro area economies cannot continue to run huge fiscal deficits. In our view, given the potentially disruptive effects of significant debt restructurings, the best path out of the crisis involves extended liquidity support at a subsidized borrowing rate.

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