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The European financial crisis is intensifying. Sovereign debt, bank funding and equity markets are under stress. European authorities—notably the ECB, through its non-standard policy measures— are striving to contain these tensions. But this has not prevented the emergence of existential questions about the future of the Euro and the integrity of the Euro area.

We continue to view scenarios involving a break-up of the Euro area as extreme. The significant costs incurred by those leaving, those remaining and other bystanders in the global economy render such an event highly unlikely. Looking forward, the most likely scenario is a continued transfer of credit risk onto public-sector balance sheets (notably that of the Eurosystem), as a mechanism for avoiding disorderly default by a sovereign or systemically-relevant bank(s). As we have argued in the past, the ECB's capacity to absorb further assets onto its balance sheet (both directly and indirectly) remains significant. The existing situation can therefore persist for some time. But where does this process end?

Short of a break-up of the Euro area, we see three possible outcomes: (1) the underlying fundamental problems in the Euro area are credibly corrected, allowing a slow return to normality; (2) risks and responsibilities are pooled (and thus diluted) at the Euro area level, through greater fiscal integration (shorthand, in large part, for transfers from the core countries to the periphery); or (3) as the quasi-fiscal resources of the ECB are exhausted, ultimately the monetisation of peripheral liabilities will threaten price stability. Therefore, unless all Euro area countries can be reliably expected to demonstrate lasting economic and fiscal rectitude, Germany will be faced with an unpalatable trilemma: chronically higher inflation, ongoing transfers to the periphery or a dramatic reversal of the process of European integration. Only when the prospect of such difficult choices is recognised do we expect the political will to solve current challenges to be summoned.

Identifying the underlying problems

In discussing the immediate financial symptoms of the ongoing European crisis, we should not neglect the underlying, fundamental economic causes. To varying degrees, the peripheral countries exhibit some combination of the following:

- Fiscal weakness: Governments have large fiscal deficits (see Chart 1) and/or have accumulated substantial debt burdens (see Chart 2).
- Banking stress: Banking systems are highly exposed to sovereign defaults and, in general, have weak balance sheets despite their capital raising efforts in recent quarters (see Chart 3).
- Structural problems: Goods and factor markets are sclerotic, hampering the necessary reallocation of resources, hindering productivity increases and limiting the growth outlook.
- Lack of competitiveness: Having suffered from above average inflation in EMU, the price competitiveness of peripheral countries has eroded versus the core (see Chart 4). Thisactsas a further drag on growth.

Taken together, these characteristics have raised questions about the sustainability of peripheral countries' current economic and financial trajectories. As a result, these problems must be credibly addressed if stability is to be restored to European economies and markets.

Such weaknesses have been compounded by the institutional frailties of the Euro area. At present, only the ECB has the independence, flexibility and resources to meet the challenges posed by the financial crisis. In filling the institutional vacuum at the heart of the Euro area, the ECB has

accumulated responsibilities beyond its traditional realm of monetary policy, notably by taking significant credit risk onto its balance sheet.

In most respects this has been fortunate: without the ECB to absorb market dislocations, the impact of the financial crisis on the real economy would have been significantly greater. Yet the ECB's success in managing the crisis has blunted the incentives for governments to correct the underlying fundamental problems and seek lasting political solutions to improve Euro area governance.

As we have discussed in the past, the Euro area therefore runs the risk of becoming stuck in a self-reinforcing impasse: able to manage the crisis, but incapable of escaping from it.

Sources of market tension

Past experience (e.g., during the ERM crisis of 1992/93 or the Asian financial crisis of 1997/98) suggests financial market pressures can force change on errant governments. Since they look forward, financial markets bring inconsistencies that would emerge in the real economy only in the future into asset pricing and financial flows today.

This is borne out by recent events in Europe. We have already seen how sovereign tensions have triggered fiscal consolidation, structural reform and institutional change that would have appeared unthinkable only a few years ago. This marks significant progress. Yet the benefits of such reforms only appear with time. And, as market pressure mounts, time is what the European authorities lack.

When thinking about the impact of current market pressures on European governments, we need to distinguish between two situations:

- **Insolvency**: Where the government in question is fundamentally insolvent (i.e., it cannot generate sufficient resources to meet its liabilities without placing debt on an explosive path), the market—fearing the prospect of default—will naturally refuse to provide funding. In such a situation, some 'transfer' has to be made to the insolvent government in order to balance its books. This can take various forms: e.g., repudiation of outstanding debt; subsidy provided from an external source. Given the distributional implications of such transfers, they are traditionally seen as lying in the realm of the fiscal authorities.
- **Illiquidity**: A government that is fundamentally solvent may nonetheless face difficulties in financing itself, e.g., in rolling over its stock of outstanding debt as it matures. Such a government has the resources to meet its obligations and therefore does not require a fiscal transfer. But it does has a 'cash-flow problem'. In this context, the natural solution is for the central bank to provide the government with a 'bridging loan'. Since solvency is not in doubt, such a loan entails no credit risk to the central bank. What's more, to the extent that such bridging loans are believed to be forthcoming, rolling over outstanding debt should become more straightforward. If the central bank can credibly signal its willingness to bridge any short-term cash-flow issue, its need actually to deliver such financing may disappear.

This conceptual dichotomy leads to straightforward policy implications. Where problems of insolvency are identified, the errant governments need to correct their fiscal waywardness. If necessary, the mistakes of the past should be recognised early and addressed through some combination of default or subsidy that allows fiscal sustainability to be restored. But where the problem is one of illiquidity, the central bank should lend generously to the government in question, so as to establish its willingness to do so and thereby support the rollover of outstanding debt.

Distinguishing insolvency and illiquidity

If only the world were so simple. In practice, distinguishing between solvency and liquidity problems is difficult, if not impossible. As a result, the allocation of responsibility across policy authorities can become unclear. And policy choices may have unintended consequences, which only serve to perpetuate rather than correct the underlying fundamental causes of the problem. Developingeach of thesepoints:

- Establishing the solvency of a particular government is challenging. Conventional calculations are highly sensitive to the assumptions underlying them. And the inevitable uncertainties about future policy choices and the outlook for economic performance unavoidably create ambiguities in the final assessment. In the current environment, implicit (and largely unquantifiable) exposures deriving from governments' fiscal backing of their domestic financial sector complicate the measurement problem.
- In the face of these uncertainties, market dynamics can take on a life of their own. To illustrate, consider the case of a government that is solvent at 'normal' levels of interest rates. Should concerns about its solvency emerge among market participants—say as a result of a rumour or idiosyncratic piece of bad news—then a default risk premium will be introduced into that government's bond yield, pushing up its funding costs. But—other things equal—higher funding costs will result in a less sustainable financial position: interest payments will rise and economic growth will stall. A vicious cycle can emerge: higher perceived default risk, leading to higher funding costs, leading to more concerns about sustainability, leading to higher perceived default risk (and so on).

Such dynamics may give rise to self-fulfilling financial crises, akin to the self-fulfilling speculative attacks on currency pegs that punctuated the 1990s. With such phenomena, the distinction between solvency and liquidity problems becomes blurred. Some combination of economic growth and funding cost will render a government solvent, while another combination will render it insolvent. Each of these two situations can be self-reinforcing—multiple equilibria emerge. The challenge facing policy makers is therefore to coordinate private-sector expectations on the 'stable equilibrium' rather than the 'crisis equilibrium', relying on the credibility and consistency of their communication and policy actions.

Well-intended policies can have unintended results and create incentive problems. Consider a central bank that initially views a government as facing a liquidity problem (perhaps on the basis that it accepts the government's promises to correct any underlying solvency concerns via fiscal austerity). The policy prescription for such a situation is superficially clear: provide generous short-term 'bridging loans' to the government to demonstrate that rollovers of outstanding debt will be unproblematic in future. But the central bank's provision of such loans will ease the immediate pressure on the government and dilute the incentive for it to undertake the fiscal austerity. If the underlying issue of fiscal sustainability is not addressed, the central bank will find itself with a large exposure to the government embodying potentially significant credit risk. With the government still excluded from market financing by the threat of default, a dependency of the government on central bank funding is created. And the central bank will find it difficult to cut off this funding flow, since that would trigger default and the realisation of the credit risk that it had unintentionally assumed. As a result, another self-reinforcing trap can emerge, with growing dependence on central bank financing leading to greater need to provide such financing, greater dependency (and so on).

Of course, policy makers are well aware of these dangers. Conditionality is always a central feature of official financial support (such as in the EU/IMF programmes to peripheral Euro area countries). In an attempt to ensure that the necessary fundamental measures are undertaken promptly,

disbursements of additional financial support are only made after a thorough evaluation of fiscal, structural and institutional measures. But domestic politics can intervene in this process. And there may come a point where technical or practical limits to further progress are reached, at least in the short term (see Global Economics Paper No. 207: The speed limit of fiscal consolidation, August 20, 2011).

All in all, should liquidity problems morph into solvency problems through a combination of the channels described above, then a well-intentioned central bank may find itself in a very difficult position: exposed to credit risk and unable to curtail its support without precipitating the financial crisis that its initial interventions were designed to avoid. Such complexities underlie the recent controversies surrounding the ECB's non-standard policy measures.

The current impasse is self-reinforcing

The preceding discussion has been couched in largely abstract terms. But the challenges identified are at the heart of the current controversies about how the European authorities should deal with the ongoing financial crisis.

Our own analysis of the fundamentals points to fiscal solvency in the overwhelming majority of peripheral countries, even if further efforts at fiscal consolidation and structural reform are needed, especially over the longer term (see, for example, European Views: Europe Should Say That BTPs Are 'Cheap', August 7, 2011). But many of these countries nonetheless face market pressure, transmitted through a combination of the channels outlined above.

An **optimistic** view would see these market pressures as reflecting a pure liquidity problem. This diagnosis would justify the ECB's significant recent interventions in sovereign markets and ongoing liquidity support for the banking sector via the fixed rate/full allotment tender procedures in its monetary policy operations. Providing liquidity freely to the market is the appropriate solution to a liquidity problem. And the ECB's scope to provide such liquidity is potentially unlimited: through its money creating powers, the ECB can swap cash for (riskless) government bonds to the extent that the market demands.

A **pessimistic view** interprets current market tensions as symptoms of solvency problems in the periphery. In this case, ultimately some form of transfer to plug the fiscal gap is required. In this context, the ECB's asset purchases and operational support to banks offer a covert (and thus politically acceptable) mechanism for effecting the required transfer, which cannot be made via conventional and transparent fiscal means owing to the political aversion to a 'transfer union' in the core. By buying peripheral sovereign bonds and funding peripheral banks against questionable collateral, the ECB absorbs significant credit risk onto its balance sheet. Should those risks materialise, the ECB will be forced to write the resulting losses off against its own capital and future stream of monetary income (collectively the fiscal resources directly available to the central bank). Since these resources would otherwise be shared across countries according to the ECB's capital key (where the largest share falls to Germany), in this scenario the ECB balance sheet becomes the vehicle for making intra-Euro-area cross-country transfers.

A **realistic view** would stand somewhere between these optimistic and pessimistic poles. Through the mechanics discussed above, liquidity and solvency concerns interact and reinforce one another. While liquidity problems amenable to central bank treatment are no doubt substantial, it would be naïve in the current environment to rule out the existence of solvency problems, especially given the deteriorating economic situation in the worst affected peripheral countries. The realistic scenario therefore poses challenges for the European authorities, most acutely for the ECB. On the one hand, offering financing freely to banks and supporting sovereign bond issuance is the remedy for liquidity concerns in these markets. But, on the other hand, such generous provision of financing to governments and banks eases the pressure on them to undertake the necessary fundamental reform. Introducing greater conditionality in liquidity and asset purchase decisions can re-sharpen the incentive to reform, but only at the expense of exacerbating liquidity tensions. And after the Lehman experience, there is no appetite on the part of European policy makers to explore the consequences of allowing disorderly conditions to emerge in systemically important institutions and markets.

The ECB therefore walks along a tightrope, maintaining a delicate balance between liquidity and solvency concerns. It lives in the hope that Euro area governments will eventually show the political will necessary to agree a fiscal solution to the underlying fiscal problems, thereby freeing the central bank to pursue its liquidity and monetary policy without fiscal encumbrance. But, while political decisions have been taken that would be remarkable in almost any other circumstances, thus far they remain inadequate to solve the underlying problems.

Escaping the impasse: Implausible corner solutions

How then to escape from the current impasse where the European authorities can manage the crisis, but are unable to solve it? The existing debate has focused on two scenarios, each of which we regard as extreme:

Break-up: If the Euro regime proves unworkable, one solution might be to disband it. Various mechanisms could be envisaged: peripheral countries depreciating out of the zone, or core countries appreciating out of it. In our view, any such break-up scenario remains extremely unlikely. The Euro area regime was designed with the intention of making commitment to it irrevocable. By implication, substantial immediate costs to all parties would be implied by any break-up, and the practical disruptions to payments and markets would be immense.

But even these costs would be dwarfed by the impact of such an event through the private sector and the financial system. The unbalanced redenomination of balance sheets and private contracts is likely to create a seizing-up of financial and goods markets: witness the Argentine experience. A break-up of the Euro area would represent a truly systemic event, with massive and—worse unpredictable implications. With the means to avoid such an outcome available, we see the likelihood that the European authorities would permit such an eventuality as extremely low.

Fiscal union: If break-up is unthinkable, it has been argued that the only alternative is full fiscal union. Definitions of what such a fiscal union entails are scarce. One characterisation would be a unitary, centralised fiscal authority with the power to issue Eurobonds and intervene in fiscal matters at the national level.

We also view the prospect of a rapid move in this direction as highly unlikely. Issuing a 'joint and several' Eurobond implies that the core countries write a 'blank cheque' to bankroll current and future financial gaps of the periphery, something that remains politically unthinkable in Germany (a position bolstered by the recent Constitutional Court decision). Permitting interventions in national fiscal decisions implies a substantial erosion of sovereignty, which—given the intensely allocative (and thus political) nature of fiscal policy—is likely to prove controversial in at least some jurisdictions.

In short, the existing level of political integration is insufficient to support a genuine European fiscal union. And attempts to create such a comprehensive fiscal union without such a political

foundation would likely exacerbate, rather than solve, the underlying problems facing Europe over anything other than the very short term.

Escaping the impasse: Seeking interior solutions

With the polar extremes of break-up and full political and fiscal union equally unlikely, plausible ways forward must lie somewhere on the spectrum between them. Focusing the public and political debate on practical intermediate solutions rather than the current extremes would represent an important step forward. Any such approach needs to have two elements:

Implementing fundamental reform: As noted above, making the Euro area sustainable ultimately requires the credible implementation of a broad set of fiscal, structural and institutional reforms, both at the national and area-wide levels. Were these reforms to have been announced credibly at the outset, the bulk of the ongoing turmoil could have been avoided. Unfortunately, that opportunity has been missed. The markets and public have lost confidence in the national and European authorities and, as a result, will demand concrete and front-loaded measures rather than rely on announced promises for the future.

That said, progress—albeit hesitant and faltering—is being made on this dimension. Under pressure, peripheral countries have announced ambitious programmes of structural reform and fiscal consolidation. But these will take time to take effect (and may even have a perverse impact in the short term). And implementation risks are substantial. At the Euro area level, the expansion of the EFSF and the creation of EU-wide structures for financial supervision represent significant steps forward in European integration. But, as with the measures undertaken by national governments, such progress is too little, too late. In particular, the EFSF (in both its current guise and after the agreed enhancements take effect in October) is too small and its inter-governmental governance too unwieldy to address the magnitude and complexity of current challenges.

So implementing fundamental reform is a necessary, but not sufficient, condition to break the current impasse. To build credibility and make concrete progress, the European authorities need to focus on two questions in addressing longer-term institutional reform. First, what responsibilities need to be assigned to area-wide (rather than national) institutions to complement the area-wide remit of the ECB, so as to ensure the integrity of the euro area? (Notable candidates would include financial supervision and crisis management and funds to recapitalise banks.) Second, how can the institutions responsible for such area-wide activities be protected from the national interests that plague intergovernmental decision-making on matters with cross-country distributional consequences? (A relevant issue here concerns financing: can or should area-wide activities be financed directly using a dedicated tax base, rather than indirectly via contributions from national governments?) Only when a common vision emerges of how to define and finance an area-wide federal fiscal body can we expect more concrete measures to fill the existing institutional lacunae.

Filling the gaps: With little prospect of resolving these deep institutional questions in the immediate future, the ECB is likely to remain the main vehicle for managing current stresses in European markets. Only the ECB fulfils the criteria to act effectively: alone among European authorities, it enjoys substantial institutional and operational independence, is endowed with its own resources and capital, and has an Euro area-wide remit. While ECB measures cannot represent a permanent solution, as we have argued in the past, directly or indirectly the ECB has the means and wherewithal to provide a bridge until the political system eventually delivers the necessary fundamental reforms.

Germany'sunpalatable trilemma

We therefore expect a further expansion of the ECB's balance sheet, driven both by outright purchases of peripheral sovereign debt and larger bank recourse to ECB repo operations. Such an expansion looks set to continue until the required institutional, fiscal and structural reforms yield fruit, allowing peripheral countries to return to the market.

Having embarked on this course, the ECB has placed considerable faith in the political system's ability to deliver. Otherwise it will be 'on the hook' indefinitely. While we think the European authorities are making more progress in this direction than they are currently credited for, overall the pace of this evolution remains inadequate. It is thus worthwhile exploring the implications of the current political impasse and implied accumulation of credit risk at the ECB. If we can describe the limiting case, we should be better able to understand the economic and political pressures that will emerge over shorter horizons.

Expansion of the ECB's balance sheet does not necessarily entail risks to economic stability: to the extent that the ECB is simply meeting the market's demand for liquidity, the central bank can offer an inexhaustible supply. But should the ECB take on credit risk in excess of its ability to bear it—in other words, if it were to face the materialisation of losses exceeding its own capital and the capitalised value of future monetary income at price stability—then underlying economic constraints would bind.

In such a situation, the ECB would seek recapitalisation from Euro area governments, on the grounds that the Treaty requires the Member States to underwrite the financial independence of the central banks. In such extreme circumstances, only the fiscally strong states would be in a position to deliver. What's more, the largest burden would fall on Germany, given that it has the largest share in the ECB's capital key.

In the limit, Germany would then be faced with the following choices:

- **Recapitalisation of the ECB**: In line with its Treaty obligations, the German government could recapitalise the ECB. Such a move would make explicit the transfer of resources—from core countries to the periphery via the ECB's balance sheet—that are inherent in the quasi-fiscal support provided by the ECB to those countries through its assumption of credit risk via asset purchases and unlimited repos. The political impediments to such recapitalisation mimic those to any other explicit transfer, as discussed above. Any move in this direction would appear to require a greater formal role for Germany in the Euro area's decision making, for example by increasing its representation on the key decision-making bodies. Such an outcome would obviously be controversial with other participants.
- Exit: The German government could refuse to recapitalise, and exit from the Euro area. Such a decision would mark a sharp reversal of the process of European integration, to which Germany has subscribed over the past half century. As already noted, the costs of exit would be formidable.
- Acquiesce on chronically higher inflation, potentially subverting the ECB's mandate: The ECB could continue to provide financial support to the periphery through 'resorting to the printing press'. Unable to cover losses through its capital and flow of monetary income consistent with price stability, only drawing on the inflation tax offers scope to plug the fiscal gap. Such a scenario need not entail a collapse into hyperinflation, but would likely lead to sustained inflation at levels higher than the ECB (or German public opinion) deems consistent with price stability. The threat to the ECB'sprimaryobjectiveis immediate.

The nature of this unpalatable trilemma reveals how the adoption of a single currency ultimately entails fiscal responsibilities towards the monetary union as a whole. The integrity of the Euro area

and the stability of the Euro rest on fiscal foundations that—in practice—are provided by Germany, as the largest and most fiscally sound member.

All would benefit from an early recognition of these implications, since they would help to focus the minds of the political class on finding solutions that pre-empt such hard choices. And, as the analysis implies that ultimately the German taxpayer will play a crucial role in the solution, it will be crucial that their understandable concerns about assuming open-ended commitments vis-à-vis the rest of Europe are recognised and embodied in the necessary institutional reforms. At a minimum, it suggests that Germany will need to obtain greater formal influence in EU policy-making institutions, more in accord with its size and responsibilities.

All these issues pose enormous and unresolved challenges to Euro area governance. Itisatthiscrossroadsthat Europe standstoday.