The Limits of Surveillance and Financial Market Failure:

Some fundamental issues arising from the euro area crisis

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Just a few years after the outbreak of the global financial and economic crisis which originated from the US housing market debacle, another financial crisis erupted in the OECD area, this time in the euro area. It was triggered by a sudden loss of market confidence in the sustainability of Greek government debt finance. The crisis soon spread to Ireland and Portugal (1), and by the middle of 2011 Spain and Italy were affected by mounting market concern about their sovereign debt. Unlike Greece, several of the latter countries had over years maintained general government net financial balances in a better form than other member countries such countries as Germany and France which have not suffered from acute financial market stress. But in many of them, private-sector saving shortages relative to domestic investment were covered by capital inflows from abroad to match persistent current account deficits.

A principal underlying cause of the external deficits was nominal wage increases far above labor productivity growth and the resulting inflation of unit labor costs leading to a significant erosion of competitiveness against trading partners and in particular Germany. In some of these countries, notably Ireland and Spain, the accumulation of the household/corporate sector debt was associated with housing market bubbles. After the burst of bubbles, the real as well as perceived need for public funds injection to reinforce the capital base of unsound banks as well as to protect bank depositors started to erode the soundness of public finance, and strains suddenly developed on their government debt financing. In fact, financial market participants started to discriminate across euro area sovereign bonds only from around the second half of 2008, following the financial market turmoil that erupted in the US around mid-2007.

Why was the crisis in the euro area not anticipated in time to prevent it?

While the detailed records of regional surveillance conducted before the outbreak of the euro area crisis within the frameworks of the European community and euro-area based institutions are not accessible to outside observers, the European Central Bank (ECB) publicly acknowledged that, in addition to the lack of rigorous implementation of the Stability and Growth Pact, "*(T)he economic governance framework was also unable to prevent the emergence of excessive macroeconomic imbalances in the euro area*" under heading "The Lack of Macroeconomic Surveillance" in Section "Economic Governance in the Euro Area – Why a Quantum Leap Is Required" of its article "The Reform of Economic Governance in the Euro Area – Essential Elements", Monthly Bulletin March 2011 (2).

Besides regional institutions engaged in surveillance of the euro area, the IMF as a principal global institution has been in charge of the surveillance of individual member countries and the euro area as a whole so as to ensure global financial stability and promotion of economic growth (3).

A review of the back numbers of the IMF flagship publication "World Economic Outlook (WEO)" conveys an impression that the IMF's early warning function in the run-up to the euro area crisis was not satisfactory, see Annex 1. A far more systematic post mortem was conducted by Pisani-Ferry et al. and the result was reported in "The 2011 TSR study - An Evaluation of IMF surveillance of the Euro Area", in which they noted:

"*In general IMF surveillance failed to take fully into account the implications of being in a currency union both for national policies and for the governance of the euro area, whose weaknesses were not fundamentally criticized* (4)".

Another international institution which has been engaged in surveillance of individual member countries and the euro area is the OECD. Unlike at the IMF, a systematic exercise by outside experts to review the OECD's (published and unpublished) documents for surveillance on euro area member countries and the area as a whole have not been carried out at the OECD. However, a review of the back numbers of its flagship publication "Economic Outlook (EO)" since 2000 suggests that the OECD issued warnings about some emerging fundamental problems in several euro area member countries at a fairly early stage (see Annex 1). For example, in the December 2001 EO, the erosion of Italy's competitive position was discussed as a matter of the OECD's particular concern in the country note on Italy (p.67). In the subsequent issues of EO, the evolution of Italy's competitiveness and related policy issues regularly featured the country notes, with particular attention paid to divergent developments in relative unit labour costs.

However, such warnings were ignored by national policy makers. As a matter of fact, the correction of imbalances in the euro area was set in motion essentially under financial market pressures which forced deficit countries to adopt fiscal consolidation (5) as well as through the market-induced financial deleveraging of the private sector in these countries, pointing to the importance of financial market discipline which unfortunately started to play its role with long delay and too abruptly.

The resultant contraction of domestic demand in the deficit countries has been a main cause of their wage and price deflation and current account improvements. Euro area surplus countries' contribution (6) has so far been basically limited to financial assistance through existing and new European facilities (7) together with the IMF loans (8). Faster domestic demand expansion in surplus countries should facilitate intra-euro-area current account adjustment process and narrowing of differentials in cost and price competitiveness in the euro area but has not been taking place under single monetary policy geared to the objective of maintaining area-wide inflation "below but close to 2 percent". There is a view that the ECB should raise its inflation objective to a higher rate (9), but it is not certain that such policy will be helpful. The IMF view on this point (10) is not very clear. Its recommendation on the role of structural policies in Germany appears more convincing (11), but its effects may require time before they start to visibly attenuate the economic and social costs of adjustment in deficit countries (12).

Immediately after the start of the European monetary union, issues arising from divergent cyclical positions in individual euro area member countries out of line with its common monetary policy were discussed in some detail in a special section on the European Union of the EO June 2001 issue (13). The OECD argued there:

"*If fiscal policy does not play a stabilizing role, the unwinding of excess demand is by default left to market forces. Ireland, the Netherlands and Spain are already experiencing much faster growth in unit labour costs in the total economy than other members of the monetary union, and this loss in competitiveness vis-à-vis their euro partners is likely to persist in the coming years. The eventual gradual weakening of net external balance will act to reduce the extent of the overheating, though this might take a relatively long time. While this "gold standard" type adjustment mechanism will ultimately prove effective, it will inevitably result in important structural changes in the economies affected, notably the allocation of resources away from their traded goods sectors. This will require the institutional structure in* *the smaller countries to be efficient in reallocating resources from declining to growing sectors. Reliance on market forces to deal with overheating thus call for reforms in product and labour markets to increase the capacity of the economy to adjust smoothly to changed circumstances. Furthermore, there is a possibility that real interest rates shaped by area-wide nominal rates and high domestic inflation will result in excessive credit expansion, leading to unsustainable increases in property values and in investment and capital stocks. This points to a risk of balance sheet problems in the wake of overheating. Supervisory policies need to ensure that financial systems maintain diversified portfolios and strong capital bases so as to be resilient as overheating ends* (14)".

However, the records of national and international bank supervisors since the EO June 2001 was published show that they have been behind the curve. Are there reasons for believing that they will do a good job next time?

Moreover, one cannot be optimistic about the effectiveness of surveillance at the global level by the IMF and the OECD (15) as well as at the regional level (within the frameworks of the Euro area and the European Community in the case of the current crisis in Europe (16)), given political reality in individual nations (17). In the end, it may continue to be financial market forces which oblige national policy makers to adopt adjustment policy measures which are necessary but disliked by electorates. This raises the question of how to make financial markets more forward-looking to prevent abrupt changes in market conditions and the disruption of real economic activities.

With this issue in mind, efforts have been strengthened over years to facilitate the diffusion of surveillance documents by international institutions, at a remarkable pace at the IMF, though much less so at the OECD. However, published versions of their warnings are "sanitized" and as such are sometimes not considered to be fully reliable and credible by the financial markets (18). On the other hand, any strong messages from public institutions, particularly from those directly engaged in policy making (such as the ECB (19)) involve the risk of upsetting the financial markets and adding to their volatility. The balancing act here is extremely difficult.

A lesson drawn from a series of crises in Latin America since the early1980s and the Asian crisis in the 1990s was that efforts should be strengthened to improve statistical information on debtor countries in the non-OECD area and its dissemination to financial market participants and the outside world more generally. However, the global financial crisis of 2007-2009 originated in the US where data on household debt and other data are fully available to financial market participants. Statistics not just on fiscal deficits but data on external imbalances and such underlying determinants of imbalances as cost and inflation divergences among euro area member countries have also been readily obtainable by financial market participants.

Why were these data on underlying imbalances across euro area member countries developing over so many years after the start of the euro not properly reflected in market prices of their euro-denominated government debt instruments? Were there reasons for financial market participants to believe that emerging problem countries in the euro area would be bailed out in one way or another without losses on their part? What was the significance of the "no bail-out" clause of the Maastricht Treaty (20)?

It is true that banks are allowed to attach a zero risk weight to sovereign debt under the standardised approach of Basel II which was carried over into Basel III. Moreover, while the internal ratings-based (IRB) approach within the Basel II framework did try to encourage large and sophisticated banks to be more discriminating in their sovereign exposures, the European Union's Capital Requirements Directives introduced a generalised zero risk weight for all EU central government debt denominated and funded in domestic currency (21).

That said, market prices should have be differentiated if markets had perceived that countries with unsustainable fiscal positions would not be bailed out and private investors would be forced to incur losses (22).

Another issue relates to differentials for nominal interest rates on private-sector debt (not subjected to the zero-risk weighting under the standardised approach of Basel arrangements nor covered by the European Union's Capital Requirements Directives). Why did they remain narrow among euro-area countries despite inflation differentials among them, thus distorting financial resource allocation within the euro area for an extended period? The two crises originating in the OECD area suggest that sufficient statistical information flows will not guarantee the good functioning of OECD financial markets, if they are left to function with their inherent dynamics (23).

There is a saying in Japan: "*There is no risk for crossing a road if you are walking in a group*". Will the use of public funds in bailing out troubled banks and protecting depositors and institutional investors that has taken place, and will likely to continue, for dealing with the current euro area crisis induce new episodes of herd behavior on the part of financial market participants (24)?

Do these observations made and the questions raised here imply that financial crises are bound to happen again in the OECD area as well as in the rest of the world in the future? Should we remain resigned?

Notes

(1) May 2010, Greece became the first euro-area country to receive financial assistance from the European Union (EU) and the International Monetary Fund (IMF) in exchange for implementing an economic programme designed by the Troika of the European Commission, the European Central Bank (ECB) and the IMF. By the end of 2010 Ireland, and somewhat later (in May 2011) Portugal, were forced to rely on the same rescue mechanism.

(2) ECB, Monthly Bulletin March 2011, pages 104~106, http://www.ecb.int/pub/pdf/other/art1_mb201103en_pp99-119en.pdf. See also endnote 19 below some comments on the ECB's annual reports. On the European Commission's Macroeconomic Imbalance Procedure (MIP), see endnote 16 below.

(3) See Shigehara and Atkinson, "Surveillance by International Institutions: Lessons from the Global Financial Crisis", OECD Working Paper No.860, May 2011, http://www.oecd-ilibrary.org/economics/surveillance-by-international-institutions_5kgchzchkvd2-en. See also IMF, "IEO Evaluation of IMF Performance in the Run-Up to the Financial and Economic Crisis", http://www.ieo-imf.org/ieo/files/completedevaluations/Crisis-%20Main%20Report%20(without%20Moises%20Signature).pdf and "IMF Management and Staff Respond to the Report by the Independent Evaluation Office on IMF Performance in the Run-Up to the Financial and Economic Crisis", February 2011, http://www.imf.org/external/np/sec/pr/2011/pr1134.htm.

(4) See Page 2 in Pisani-Ferry et al. "The 2011 TSR study - An Evaluation of IMF surveillance of the Euro Area", 2012, http://www.imf.org/external/np/pp/eng/2011/071911.pdf.

(5) On recent debates about fiscal consolidation and multipliers, see among others, Blanchard and Leigh, "Growth Forecast Errors and Fiscal Multipliers", IMF Working Paper WP/13/1, January 2013, http://www.imf.org/external/pubs/ft/wp/2013/wp1301.pdf and "Fiscal consolidation: At what speed?", May 2013, http://www.voxeu.org/article/fiscal-consolidation-what-speed.

(6) On the role of surplus or creditor countries, see Philip Turner, "Caveat Creditor", BIS Working Papers No. 419, July 2013, http://www.bis.org/publ/work419.htm.

(7) See European Central Bank, "The European Stability Mechanism", Monthly Bulletin, July 2011, http://www.ecb.int/pub/pdf/other/art2_mb201107en_pp71-84en.pdf

(8) See Pisani-Ferry, Sapir and Wolff, "EU-IMF assistance to euro-area assistance: an early assessment", May 2013, http://www.bruegel.org/publications/publication-detail/publication/779-eu-imf-assistance-to-euro-area-countries-an-early-assessment/?utm_source=Bruegel+publication+alert&utm_campaign=c6cf74d98a-130617&utm_medium=email&utm_term=0_1f233d52bd-c6cf74d98a-275068570euroEAN.

(9) See Schmitt-Grohé and Uribe, "The Case for temporary inflation in the Eurozone", August 2012, http://www.columbia.edu/~mu2166/jep.pdf. Their model predicts that full employment in peripheral Europe could be restored by raising the euro-area annual rate of inflation to about 4 percent for the next five years. Also see Ball, "The case for 4% inflation", May 2013, http://www.voxeu.org/article/case-4-inflation.

(10) The IMF states: "*By way of example, inflation in Germany and the Netherlands, the other major surplus economy in the euro area, would have to be about 3 to 4 percent to keep euro area inflation close to the ECB's target of "below but close to 2 percent," if inflation in Greece, Ireland, Italy, Portugal, and Spain were kept around zero to 1 percent and inflation elsewhere remained in line with the ECB target. This underscores the importance of wage and spending adjustments in the surplus economies for the proper functioning of the EMU*" (WEO of October 2012, p. 28). In an IMF staff position note, Blanchard, Dell'Ariccia and Mauro pose the question whether the inflation target should be raised to 4 per cent from 2 per cent, "Rethinking Macroeconomic Policy" (p.11), February 2010, http://www.imf.org/external/pubs/ft/spn/2010/spn1003.pdf. It is to be noted that the same authors do not develop their discussion on the optimal rate of inflation in their most recent IMF paper, "Rethinking Macro Policy II: Getting Granular", April 2013 (pp.8~9), http://www.imf.org/external/pubs/ft/sdn/2013/sdn1303.pdf.

(11) The IMF argues: "*In Germany, structural reforms will be needed to boost the relatively low level of investment and, more generally, increase potential growth from domestic sources. In the near term, the underlying strength in the labor market should foster a pickup in wages, inflation, and asset prices, and this should be seen as part of a natural rebalancing process within a currency union*" (WEO of October 2012, p. 28).

(12) Political economy aspects of difficulties in dealing with the euro area crisis are discussed by Underhill in "The political economy of (eventual) banking union", VOX, 16 October 2012, http://www.voxeu.org/article/political-economy-eventual-banking-union.

(13) See also European Central Bank,"Monetary Policy and Inflation Differentials in a Heterogeneous Currency Area", Monthly Bulletin May 2005, pp. 61–77, http://www.ecb.int/pub/pdf/other/pp61_77_mb200505en.pdf.

(14) Issues arising from localised asset bubbles under the common monetary policy were examined also in technical papers prepared by OECD staff economists (Englander and Egebo, "Adjustment under fixed exchange rates: Application to the European Monetary Union", OECD Economic Studies, No.20, Spring 1993, http://www.oecd.org/eu/33947924.pdf, and Hoeller, Giorno and de la Maisonneuve, "One money, one cycle? Making monetary union a smoother ride", OECD Economics Department Working Paper No. 401, 2004, http://www.oecd-ilibrary.org/economics/one-money-one-cycle-making-monetary-union-a-smoother-ride_321284370330).

(15) The frequency of OECD's surveillance on individual countries has been reduced to once every two years, given the need to cover a growing number of non-member as well as new member countries within existing staff resources. After the accession of New Zealand in 1973, it was conducted once each year for 24 member countries only for more than 20 years until the mid-1990s when the OECD membership started to be enlarged more widely. The reduced frequency has been limiting the scope for its timely surveillance. A reappraisal of the modality of surveillance by the OECD is urgently required to make it more relevant to changed global economic circumstances, see Shigehara, "The way forward: Streamlining policy discussions for more effective multilateral surveillance" in The OECD at 50, the 50th anniversary book of the OECD, May 2011(pp.152~153), http://office.shigehara.online.fr. More to the point related to the euro area crisis, as intra-euro-area divergences in competitiveness --- a fundamental cause of the crisis --- resulted from differences in unit labor cost and price performance across member countries that in turn largely reflected intricate interactions between macro economic and social, labor, industrial and other structural polices over a prolonged period, a holistic approach to adjustment policies is required to reverse such divergences. This implies that the joint participation of very senior policy makers in macro economic and structural policy areas from examining countries as well as from countries to be examined should be encouraged to strengthen the effectiveness of OECD fora for both bilateral and multilateral surveillance of the euro area.

(16) See ECB, "The Reform of Economic Governance in the Euro Area – Essential Elements", Monthly Bulletin March 2011, pages 113~116 and 117~119, http://www.ecb.int/pub/pdf/other/art1_mb201103en_pp99-119en.pdf.

One of the conclusions in the article is that "(T)he quality and independence of fiscal and economic analysis needs to be guaranteed. This requires the establishment of an independent advisory body at EU level comprising persons of recognised competence. This body would provide an external ex post assessment of the conduct of budgetary and macroeconomic surveillance by the Council and the Commission" (page 118).

On "Macroeconomic Imbalance Procedure (MIP)" which allows the European Commission and the Council to adopt preventive recommendations under article 121.2 of the Treaty at an early stage before the imbalances become large, see European Commission, "Macroeconomic Imbalance Procedure (MIP)"

http://ec.europa.eu/economy_finance/economic_governance/macroeconomic_imbalance_procedure/mip_framework/index_en.htm. See also the Commission's first Alert Mechanism Report, "Tackling macroeconomic imbalances in the EU", http://europa.eu/rapid/press-release_IP-12-132_en.htm.

More general political economy issues of European monetary integration are discussed in Spolaore, "What is European Integration about? A Political Guide for Economists", June 2013, http://sites.tufts.edu/enricospolaore/files/2012/08/Euro-June-2013.pdf.

(17) See Shigehara, "Multilateral Surveillance: the IMF, the OECD and G-20", la Ligue Européenne de Cooperation Economique, Paris, 1 February 2011, the text at http://office.shigehara.online.fr and the video picture at http://www.dailymotion.com/video/xh5xan_kumiharu-shigehara_news.

(18) One of many recommendations by the IMF Independent Evaluation Office (IEO) emanating from its evaluation of the IMF's performance in the run-up to the financial and economic crisis was its Executive Board consideration of the possibility of issuing staff reports without the need for Board endorsement in order to promote more effective bilateral surveillance. The IEO's view is that this could be followed by a peer review process structured to give surveillance greater traction. However, this proposal did not receive any support from the Board, see http://www.imf.org/external/np/pp/eng/2012/021412.pdf.

(19) For example, in the Annual Report for 2007 where the ECB commented on the rise in the ratio of household debt to GDP in the euro area over 2000~2007, it stopped short of issuing specific warnings, simply stating: "*It should be noted that the ratio represents an average level and the level of indebtedness may vary across different households in the various countries of the euro area*" (page 50), http://www.ecb.europa.eu/pub/pdf/annrep/ar2007en.pdf. More generally, while the ECB's annual reports published before the outbreak of the euro area crisis regularly provided statistical information on the fiscal positions of individual euro member countries and at times added some comments on household debt and house price developments in some of them, it gave no warning or information about intra-euro area current account imbalances and their determining factors such as divergences in inflation and unit labour costs across euro area member countries. See also Erixon, "Money Mischief in the Eurozone: Reforming the European Monetary Union", ECIPE Occasional Paper No. 01/2013, http://www.ecipe.org/media/publication_pdfs/OCC12013.pdf.

(20) Article 103, Treaty on European Community

http://eurlex.europa.eu/LexUriServ/site/en/oj/2006/ce321/ce32120061229en00010331.pdf.

(21) See Turner, "Benign neglect of the long- term interest rate", BIS Working Papers No 403 (footnote 26, page 17), February 2013, http://www.bis.org/publ/work403.pdf. Hannoun points out that European Union's Capital Requirements Directive (CRD) is not in line with with Basel II, see his presentation "Sovereign risk in bank regulation and supervision: where do we stand?" at the Financial Stability Institute High-Level Meeting, Abu Dhabi, 26 October 2011, www.bis.org/speeches/sp111026.htm?ql=1.

It is also to be noted that all European Union government bonds have a zero capital requirement under the Union's Solvency II rules for insurance companies, see Turner, "Is the long-term interest rate a policy victim, a policy variable or a policy lodestar?", BIS Working Papers No 367 (page 8), December 2011, http://www.bis.org/publ/work367.pdf.

(22) See Annex 2 for a summary of empirical findings on determinants of sovereign bond spreads in the euro area. Among them, Attinasi, Checherita and Nickel, "What explains the surge in euro area sovereign spreads during the financial crisis of 2007-2009?", ECB

Working paper series No. 1131, 2009, http://www.ecb.int/pub/pdf/scpwps/ecbwp1131.pdf, Haugh, Ollivaud and Turner, "What Drives Sovereign Risk Premiums? An Analysis of Recent Evidence from the Euro Area", OECD Economics Department Working Papers No. 718, 2009, http://www.oecd-ilibrary.org/economics/what-drives-sovereign-risk-premiums_222675756166 and Barbosa and Costa, "Determinants of sovereign bond yield spreads in the euro area in the context of the economic and financial crisis", Banco de Portugal Working Paper 22, October 2010, http://www.bportugal.pt/enUS/BdP%20Publications%20Research/wp201022.pdf basically tried to explain the emergence of large sovereign bond spreads in the euro area from around the second quarter of 2008. They did not explain why the spreads remained so small for such a long time before that time despite growing underlying imbalances such as widening differentials in inflation and intra-euro area competitiveness (see Box 1.5, page 45, May 2010 EO). On the effects of the ECB's OMT on the yield curves of Spanish and Italian government bonds and the risk of reducing incentives for structural reforms, see Benink and Huizinga, "How to limit the ECB's OMT?", Vox, 12 July 2013, http://www.voxeu.org/article/how-limit-ecb-s-omt.

(23) On the conflicts of interest inherent in the credit rating business and their implications for prudential regulations, see Efing and Hau,"Corrupted credit ratings: Standard & Poor's lawsuit and the evidence", Vox, 18 June 2013 http://www.voxeu.org/article/corrupted-credit-ratings-standard-poor-s-lawsuit-and-evidence. On new European regulations of credit agencies, see Institut Montaigne, "Nouvelle réglementation européenne des agences de notation:quels bénéfices en attendre ?", March 2013, http://www.institutmontaigne.org/fr/publications/nouvelle-reglementation-europeenne-des-agences-de-notation-quels-benefices-en-attendre. For an assessment of the performance of an European credit rating agency, see Bartels and Weder di Mauro, "A rating agency for Europe – A good idea?", Vox 4 July 2013, http://www.voxeu.org/article/rating-agency-europe-good-idea.

(24) See Boone and Johnson, "Will the politics of global moral hazard sink us again?" http://harr123et.files.wordpress.com/2010/07/futureoffinance-chapter101.pdf. A less pessimistic view is expressed by Brunnermeier, Crockett, Goodhart, Persaud and Shin who argue:"*While we cannot hope to prevent crises completely, we can perhaps make them fewer and milder by adopting and implementing better regulation*", Last word, Executive Summary in The Fundamental Principles of Financial Regulation, Geneva Reports on the World Economy 11, http://www.princeton.edu/~markus/research/papers/Geneva11.pdf. In this context, see also Allen et al., Cross-Border Banking in Europe: Implications for Financial Stability and Macroeconomic Policies, Centre for Economic Policy Research 2011, http://www.cepr.org/pubs/books/CEPR/cross-border_banking.pdf; Goodhart,"How should we regulate bank capital and financial products? What role for 'living wills'?", http://harr123et.files.wordpress.com/2010/07/futureoffinance-chapter51.pdf and Large, "What framework is best for systemic (macroprudential) policy?" http://harr123et.files.wordpress.com/2010/07/futureoffinance-chapter73.pdf, both in The Future of Finance, ditto; and Kowalik, "Countercyclical Capital Regulation: Should Bank Regulators Use Rules or Discretion?" The Federal Reserve Bank of Kansas City Economic Review, Second Quarter 2011, http://www.kc.frb.org/publicat/econrev/pdf/11q2Kowalik.pdf.

For more recent discussion on micro- and macro-prudential policy issues, see Haldane, "Constraining discretion in bank regulations", a paper given at the Federal Reserve Bank of Atlanta conference on "Maintaining financial stability: holding a tiger by the tail(s)", 9 April 2013. http://www.bis.org/review/r130606e.pdf, Constâncio, "How can macro-prudential regulation be effective?", March 2012, http://www.ecb.int/press/key/date/2012/html/sp120328.en.pdf?eaa76bcd1e135ce893e0171fca7f4439 and Committee on the Global Financial System (CGFS), "Operationalising the selection and application of macroprudential instruments", December 2012, http://www.bis.org/publ/cgfs48.pdf and Section IV "Macroprudential instruments" in an IMF staff position note by Blanchard, Dell'Ariccia and Mauro, "Rethinking Macro Policy II: Getting Granular", April 2013, http://www.imf.org/external/pubs/ft/sdn/2013/sdn1303.pdf. See also Box 1.5. "Macro-prudential regulations", OECD Economic Outlook May 2013 Pleliminary version (pp. 52~54).

On the relationship between monetary and macroprudential policies, see Angelini, Neri and Panetta, "Monetary and Macroprudential Policies", European Central Bank Working Paper Series No.1449, July 2012, http://www.ecb.int/pub/pdf/scpwps/ecbwp1449.pdf and IMF, "The Interaction of Monetary and Macroprudential Policies", January 2013, http://www.imf.org/external/pp/longres.aspx?id=4732.

For recent theoretical contributions on the interactions of various types of financial regulation, see Goodhart, Kashyap, Tsomocos and Vardoulakis in "An Integrated Framework for Multiple Financial Regulations", 2012, http://www.federalreserve.gov/newsevents/conferences/GoodhartKashyapTsomocosVardoulakis.pdf and "Financial Regulation in General Equilibrium", National Bureau of Economic Research Working Paper Number 17909, 2012, http://www.nber.org/papers/w17909.