



IMF POLICY PAPER

CRISIS PROGRAM REVIEW

December 2015

IMF staff regularly produces papers proposing new IMF policies, exploring options for reform, or reviewing existing IMF policies and operations. The following documents have been released and are included in this package:

- A **Press Release** summarizing the views of the Executive Board as expressed during its December 7, 2015 consideration of the staff report.
- The **Staff Report**, prepared by IMF staff and completed on November 9, 2015 for the Executive Board's consideration on December 7, 2015.

The IMF's transparency policy allows for the deletion of market-sensitive information and premature disclosure of the authorities' policy intentions in published staff reports and other documents.

Electronic copies of IMF Policy Papers
are available to the public from
<http://www.imf.org/external/pp/ppindex.aspx>

International Monetary Fund
Washington, D.C.



INTERNATIONAL MONETARY FUND



Press Release No.15/563
FOR IMMEDIATE RELEASE
December 16, 2015

International Monetary Fund
Washington, D.C. 20431 USA

IMF Executive Board Concludes Review of Fund-supported Programs During Global Financial Crisis

On December 7, 2015, the Executive Board of the International Monetary Fund (IMF) concluded a review of program design and outcomes of Fund-supported programs undertaken during and following the global financial crisis. The discussion was informed by a staff paper.

The review provides an updated assessment of 32 programs financed from the Fund's general resources account (GRA) for 27 countries between September 2008 and June 2013. Drawing on lending instruments totaling SDR 420 billion (about US\$577 billion), the Fund supported Euro Area countries as they built firewalls against financial contagion; emerging economies and small states as they addressed the collapse of trade and financing flows in 2008–09; and MENA economies as they implemented reforms after the 2011 Arab Spring.

The period covered by the review allowed it to reflect outcomes for up to two years or more of program performance for each arrangement. In addition, it compared outcomes in recent program cases with those in comparator economies that did not require Fund financial support, and provided comparisons with the experience of countries during earlier Fund-supported programs.

In 2014, the International Monetary Financial Committee (IMFC) requested a follow-up review of Fund-supported program with a view to improve Fund advice and future Fund arrangements. The first such review took place in 2009, followed by updates in 2010–12.

Executive Board Assessment

Executive Directors welcomed the updated assessment of the design and outcomes of Fund-supported programs undertaken following the global financial crisis. They concurred that by boosting confidence and providing resources, alongside other global efforts,

Fund-supported programs helped limit the damage and chart a path through the global financial crisis.

Directors noted that Fund financial support helped allow the necessary adjustment to be more gradual and shielded a range of emerging market countries and small states from the collapse of global trade and financing flows. They also saw programs as helping countries gain needed time to address deeper-rooted problems, start unwinding macroeconomic imbalances and repairing balance sheets, and, in the euro area, strengthen firewalls and develop a banking union. Directors noted that programs supported reforms and confidence in Middle Eastern and North African countries after the 2011 Arab Spring.

Directors welcomed efforts to learn from program outcomes when designing later programs. They recognized changes in program design that included moving to a slower, albeit still appropriate, pace of fiscal consolidation in some programs; strengthened efforts to achieve internal devaluation; enhanced incentives for debt restructuring to address private debt overhangs; and sovereign debt restructuring where necessary in some later and successor programs.

With nominal exchange rate adjustment largely precluded as a policy choice in many of the crisis program cases, Directors recognized that efforts to rebuild competitiveness through internal devaluation proved difficult to achieve within a short period. They noted that the difficulty owed in part to domestic rigidities that take time to address, as well as to weak growth and low inflation in partner countries. In this regard, some Directors underlined the need to take into account prevailing external conditions that could hamper the authorities' efforts, while a few others pointed to measures within the authorities' control, such as promoting flexible markets and structural reforms. A few Directors also pointed out that unit labor cost reductions could have an impact on external competitiveness and should be analyzed further. A number of other Directors considered that the contractionary impact of internal devaluation, large fiscal consolidation, and structural reforms may have been larger than envisaged. A few Directors also noted that greater attention is warranted regarding the implications for program design of the impact of imbalances within a currency union on the needed internal adjustment or demand compression in program countries within the union. Going forward, Directors observed that programs designed around internal devaluation should recognize the need to sustain reforms over extended periods, which may require more and longer-term financing either from the Fund or other institutions, together with strong ownership and a high level of implementation capacity.

Directors concurred that programs generally succeeded in strengthening fiscal balances with a view to reducing public debt ratios over time. They welcomed the attention given to output and employment in program objectives, noting that in some programs with large fiscal consolidations, the negative short-term effects on output can be sizable, reflecting larger-than-anticipated fiscal multipliers, as well as other factors weighing on activity. In such cases, a

more gradual pace of consolidation could be desirable while maintaining a credible adjustment path that restores confidence and reaches a sustainable and resilient position in due time. A few Directors noted that a more gradual fiscal adjustment could require additional official financing. A number of Directors also considered that more timely debt operations may be needed where public debt is high and unsustainable. A number of other Directors, however, cautioned that the likely effects of debt restructuring should be studied further, with the desirability of such operations assessed on a case-by-case basis. A number of Directors looked forward to considering options for reforming the Fund's exceptional access framework.

Directors noted that structural reforms took on particular importance in recent programs seeking to foster adjustment and address structural impediments to growth. Some Directors observed that the extent of reforms in some programs may have resulted in reform fatigue, and accordingly underlined the importance of more focused structural conditionality. While noting that the near-term growth dividend of reforms have fallen short of expectations, a number of Directors stressed that this should not be an argument for postponing essential reforms. Directors underlined the need for prudent assumptions on the near-term growth payoffs from structural reforms, and looked forward to further analysis on reform prioritization and assessing reform payoffs.

While noting that policies to repair balance sheets in crisis circumstances could help foster recovery, Directors recognized that progress proved slow, reflecting potential fiscal costs and gaps in insolvency and foreclosure frameworks. Directors called for programs to focus at an early stage on legal frameworks and out-of-court settlement options, prudential measures to incentivize debt write-offs and restructurings, and the creation of markets or institutions to handle distressed debts. Directors called for proactive and sustained steps to build frameworks that can avert the build-up of risks ahead of crises.

Directors highlighted the importance of close collaboration on program design and monitoring between regional financing partners and the Fund. Many Directors supported establishing operational guidelines that build upon the G-20 principles for cooperation between the Fund and regional financing arrangements (RFAs), and noted that the forthcoming Board discussions on the international monetary and financial system and global financial safety nets will also provide valuable inputs. In this context, a few Directors suggested a separate staff assessment of Fund collaboration with RFAs, including euro area institutions. Directors noted that differences across regional arrangements may preclude across-the-board recommendations for collaboration between the Fund and RFAs. A number of Directors emphasized that the guidelines should ensure clear rules for various partners, safeguard the Fund's responsibilities, and ensure that cumulative conditionality is macro-critical and in line with national implementation capacity. Directors also noted that where changes in currency union-wide policies are important for program success, the Fund should provide advice through surveillance as warranted. Some Directors considered that the

Fund could also seek commitments on union-wide policies if necessary for program success or financing assurances.

Directors noted that the various issues raised will need further work and analysis. They considered that it would be useful to draw together the lessons from the different reviews of crisis programs to guide future Fund operations and the Fund's response to future crises. Directors looked forward to the forthcoming IEO review on the IMF and the euro area crisis.



CRISIS PROGRAM REVIEW

November 9, 2015

Context. This paper provides an updated review of Fund-supported programs undertaken during the global financial crisis. It follows a series of previous reviews during 2009–12 that assessed program design and outcomes during the surge in Fund supported programs since 2008.

Scope and approach. The review covers experience during 2008–15 for 32 arrangements financed from the Fund’s general resources account (GRA). It covers 27 countries for which arrangements were approved during September 2008–June 2013, with two years or more of program performance. The approach compares experiences in recent program cases with those in comparator economies that did not require Fund financial support and in countries during earlier Fund-supported programs. The data are drawn mainly from original program documents and the World Economic Outlook database through April 2015. In some cases they may differ, therefore, from the information in more recent IMF country reports.

Staff. The paper was prepared by a staff team led by Geoff Gottlieb and Papa N’Diaye and comprising Ali Abbas, Diana Ayala, Botir Baltabaev, Alex Culiuc, Christopher Dielmann, Ghada Fayad, Heiko Hesse, Emmanuel Hife, Christina Kolerus, Annette Kyobe, Victor Lledo, Alina Luca, Mario Mansilla, Frantisek Ricka, Christian Saborowski, Yan Sun-Wang, Katsiaryna Svirydenka, and Gao Yuan, under the supervision of Vivek Arora, Peter Allum, and Luis Cubeddu.

EXECUTIVE SUMMARY

KEY MESSAGES

- Fund-supported programs helped chart a path through the global financial crisis that avoided the counterfactual scenario many initially feared, involving a cataclysmic meltdown of the global economic system. Given the radical differences between the 2008 crisis and its predecessors, decisions were made amidst significant uncertainty about shocks, transmission channels, and policy responses. Program outcomes helped inform the design of later programs, and contributed to broadening the array of feasible policies over time by strengthening frameworks and reducing the risk of contagion.
- Nominal exchange rate adjustment was less central to the adjustment strategy than in previous program episodes. “Internal devaluation”, which relies on domestic price adjustment, proved hard to achieve within a short period, owing in part to domestic rigidities as well as partner countries’ weak growth and low inflation. Vulnerabilities accumulated ahead of the crisis remain to be fully resolved in many cases.
- Regional financing played an important role in Euro Area programs. Given the welcome and growing importance of regional financing arrangements (RFAs), clearer operational guidance for the Fund’s interaction with RFAs in the context of Fund-supported arrangements would be helpful for delineating responsibilities.

Context. The Fund approved support under the GRA facilities and instruments of SDR 420 billion during 2008–13, including both precautionary arrangements and arrangements from which members made drawings, of which nearly SDR 119 billion of these resources was drawn during the period. Fund-supported programs responded to differing needs among members, including emerging markets affected by capital flow reversals and credit disruptions after the September 2008 collapse of Lehman Brothers; small countries whose external financing and exports declined during the global crisis; the Euro Area program countries; and a few countries in the Middle East and North Africa (MENA) region that tried to address deep-seated structural and fiscal issues in an external environment strained by the global financial crisis.

Objectives. When the global crisis broke, many feared outcomes such as a second Great Depression or a cascading of contagion-fueled crises around the world. Fund-supported programs were undertaken in an environment where avoiding such outcomes was seen as crucial across the world. Program design in many cases was undertaken in the context of the extraordinary uncertainty that existed after the collapse of Lehman Brothers and during the Euro Area crisis. From an operational perspective, as in previous crises, IMF-supported programs provided balance of payments support, helping to smooth the pace of adjustment and restore investor confidence. The focus of the programs varied according to country circumstances but they generally shared a few common

features. Programs focused on restoring external viability through adjustment in internal or external prices; improving competitiveness and productivity by addressing product and labor market rigidities; restoring fiscal sustainability through adjustment and restructuring; re-capitalizing banks and promoting non-financial private balance sheet restructuring; and strengthening financial supervisory and regulatory frameworks.

Outcomes. At a broad level, Fund-supported programs helped the global economy avoid the most feared outcomes. The Fund helped to chart a way through the crisis, using experience to inform future program design and contributing to the strengthening of frameworks and firewalls that gradually broadened the array of feasible policy choices over time. Even with Fund financial support, a significant adjustment was unavoidable for some countries as earlier imbalances were unwound. Without Fund financial support, even more rapid adjustment would have been necessary to close financing gaps, creating disruptions for program countries and risking a further intensification of the crisis. Fund-supported programs helped to smooth the adjustment and gain time for addressing problems. They helped the world and most program countries weather the effects of the crisis, cushion output, reduce imbalances, and stabilize financial systems. They helped equip a range of emerging economies and small states to handle the collapse of trade and financing flows in 2008–09; provided the Euro Area with time to build firewalls; and supported reforms and confidence in the MENA economies after the 2011 Arab Spring. About $\frac{3}{4}$ of the program countries have regained market access, and a third have substantially reduced their reliance on IMF financing.

While a few countries adjusted relatively quickly, in many cases underlying vulnerabilities remain, debt is still elevated, and the restoration of market access has occurred amidst easy global financial conditions with its durability to be tested. Unemployment remains high and growth generally tepid, reflecting weak global demand, limited exchange rate adjustment, continuing deleveraging, and a reduction in potential growth notwithstanding structural reforms. In part, this picture reflects the fact that recovery from financial crises tends to occur over protracted periods and adjustment is particularly difficult for all countries in a weak global environment.

External Adjustment. External imbalances and currency misalignments in recent crisis program cases were at least as large as those in previous programs. Nonetheless, recent programs both in countries belonging to currency unions and in those with independent exchange rates featured more rigid exchange rates, partly reflecting authorities' existing exchange rate regimes as well as a recognition that large and abrupt currency adjustments could destabilize balance sheets with currency mismatches. Greater exchange rate rigidity implied a greater reliance on domestic price adjustment to restore competitiveness. In practice, internal devaluation proved difficult to achieve, and the desired recovery in growth and exports did not materialize for most countries.

Fiscal Policy and Public Debt. Programs typically sought to reduce fiscal deficits to lower public debt ratios over the medium term, taking into account available financing. While deficits were generally reduced in line with program objectives, the negative short-term effect on output was greater than envisaged in programs featuring large fiscal consolidations, in part owing to larger than expected fiscal multipliers. This, together with bank recapitalization costs and other factors that dampened activity, some of which were particularly hard to predict given the circumstances, led in

several cases to a larger than expected rise in debt-GDP ratios during the program period. Where public debt significantly exceeded high risk thresholds, it was generally restructured through private sector involvement and, in a few cases, official sector involvement. Concerns about bank-sovereign linkages and cross-border contagion sometimes delayed or limited public debt restructuring, adversely affecting growth and credit intermediation.

Structural Reforms. Many programs featured extensive structural reforms, which in general were necessary for successful internal devaluation, focused on core areas of the Fund's responsibilities, and may have reflected the Fund's growing emphasis on the structural challenges to growth. Structural conditionality may, however, have resulted in reform fatigue in some cases and the growth payoffs from structural reforms in the near term appear to have been modest and less than envisaged.

Private Sector Balance Sheets. Households and corporates in many program countries entered the crisis with debt sustainability challenges. During the crisis, the private sector increased its saving (deleveraged) to rebuild stressed balance sheets, dampening aggregate demand. Program design generally identified balance sheet strains, but the drag on growth and the implications for key policy goals such as fiscal adjustment turned out to be more severe than envisaged, underlining the notion that recovery from financial crises tends to be protracted. Only modest progress was made toward the accelerated repair of balance sheets, reflecting moral hazard concerns about debt write-offs, potential fiscal costs, and gaps in insolvency and foreclosure frameworks.

Financial Regulation/Supervision. The crisis revealed an excessive buildup of risks in bank balance sheets, often as a result of gaps in supervisory arrangements. Once the crisis hit, progress in resolving insolvent financial institutions and recapitalizing systemic ones was relatively slow, which amplified financial market volatility, curtailed bank lending, and kept up borrowing costs for both sovereign and private borrowers. The delay in setting up a banking union in the Euro Area with a single supervisory-regulatory framework, resolution mechanism, and safety net was costly. Macro-prudential regulations were not a core feature of recent programs and, where adopted, generally focused on addressing banks' foreign currency risks.

Regional Financing Arrangements (RFAs) and Currency Unions. Fund-supported programs that involved collaboration with RFAs benefited from RFAs' regional expertise and an expanded financing envelope. The recent experience in the Euro Area could be useful for further building guidelines for future Fund-RFA collaboration, while recognizing that institutional frameworks and practices differ across cases. In the case of Fund arrangements for members belonging to currency unions, Fund program design took into account the fact that union-wide policies can have an important bearing on the member's economic situation. When changes in such policies were warranted for program success, the Fund typically sought them through commitments or through its surveillance advice.

Considerations for Future Program Design

External Adjustment. Greater exchange rate adjustment helps address external gaps with a less adverse impact on output, though where foreign currency liabilities are substantial steps are needed to mitigate the impact of currency depreciation on balance sheets. For countries where nominal devaluation or depreciation is not a realistic option, for example those in currency unions, program design should recognize that the alternative route of internal devaluation is very demanding, requiring ambitious macroeconomic adjustment and structural reforms sustained over a period that can well exceed the standard 3–4 year period of Fund-supported programs. The policies of the currency union as a whole affects prospects for external adjustment by individual members: for example, internal devaluation is harder to achieve if inflation is very low and external demand is weak.

Fiscal Policy and Public Debt. Fiscal consolidation is generally key for adjustment, and its appropriate pace and size should reflect macroeconomic objectives, available financing, and debt sustainability. Program design should take into account the effects of fiscal consolidation on output. Where these effects are projected to be large, with consequences for program sustainability, it would be appropriate to seek additional financing to accommodate a more gradual consolidation; where public debt is high, timely debt restructuring may also be needed.

Structural Reforms. Structural conditionality remains important for achieving reforms necessary for adjustment and long-term growth. It may need to be more extensive where programs include broad-based reforms design to support internal devaluation, but should pay regard to authorities' implementation capacity. At the same time, modest short-term growth dividends from supply-side structural reforms should be reflected in realistic and prudent program assumptions.

Private Sector Balance Sheets. Balance sheet strains and the associated drag on credit and activity take time to resolve. While an early start to reforms is important to support recovery over the medium term, program design should not typically anticipate large near-term benefits for economic activity. Early priorities for tackling private debt overhangs include attention to legal frameworks and out-of-court settlement options, prudential measures to incentivize debt write-offs and restructuring when needed, and the creation of markets or institutions to handle distressed debts. In crisis circumstances, the benefits of policies designed to write down debts may exceed the adverse impact on public balance sheets and moral hazard considerations. Steps to address balance sheet data gaps can help identify vulnerabilities and transmission channels, and inform decisions on the merits and costs of exchange rate depreciation. Regarding financial regulation and supervision, sustained and proactive steps are important toward strengthening institutional frameworks to help prevent the build-up of risks.

RFAs and Currency Unions. The G-20 principles for cooperation between the Fund and RFAs provide a helpful foundation for developing more updated and operational guidelines in this area. The guidelines could ensure clear roles for various partners, such as the Fund's responsibility for macroeconomic and debt sustainability analysis, as well as critical and parsimonious conditionality that does not overburden national implementation capacity. Consistent with ongoing practice, where changes in currency-union-wide policies are important for program success, the Fund should provide advice through its surveillance as warranted or, when necessary (including for financing assurances), seek commitments on prospective implementation of necessary union-wide policies; alternatively, program design would need to be based on larger adjustment and financing, or Fund involvement be postponed.

Approved By
Siddharth Tiwari

Prepared by a team from the Strategy and Policy Review Department, the Fiscal Affairs Department, and the Monetary and Capital Markets Department.¹

CONTENTS

EXECUTIVE SUMMARY	2
OVERVIEW OF CRISIS AND PROGRAM OUTCOMES	10
A. Overview	10
B. Analytical Country Groupings	11
C. Program Design	12
D. Program Outcomes	13
E. Evenhandedness	17
F. Technical Assistance	18
EXTERNAL ADJUSTMENT	20
A. Overview	21
B. Objectives and Outcomes: Addressing Balance of Payments Gaps through Financing and Adjustment	22
C. Exchange Rate Policies	24
D. Monetary Program Design	25
E. Outcomes	27
FISCAL ADJUSTMENT	31
A. Background and Fiscal Objectives	31
B. Fiscal Outcomes	33
C. Debt Sustainability	35
STRUCTURAL REFORMS	42
A. Program Goals	42

¹ The coverage of the review benefitted from conversations with outside observers, who, however, bear no responsibility for the findings. They include Charles Collyns (Institute of International Finance), Lorenzo Giorgianni (Tudor Investment Corporation), Philip Lane (formerly at Trinity College), Mahmoud El-Gamal (American University in Cairo), Erik Nielsen (Unicredit Europe), Jeffrey Sachs (Columbia University), and Andre Sapir (Université Libre de Bruxelles).

B. Outcomes	44
-------------	----

ADDRESSING PRIVATE SECTOR BALANCE SHEET STRESS 47

A. Program Objectives for Balance Sheet Repair	48
B. Policies to Address Stressed Balance Sheets	50

REGIONAL FINANCING ARRANGEMENTS AND CURRENCY UNIONS: ISSUES FOR PROGRAM DESIGN 57

A. Co-financing with RFAs	57
B. Program Design in Currency Unions	58

BOXES

1. Recent Experience with the Flexible Credit line (FCL), Precautionary Credit Line (PCL), and Precautionary Credit Line (PCL)	19
2. Promoting Internal Devaluation	30
3. Restructuring vs. Non-Restructuring Programs	40
4. G-20 Principles for Cooperation Between the IMF and RFAs	59
5. Aligning Union-wide Policies to The Needs of Fund-Supported Programs	60

FIGURES

1. World Growth and Fund-Supported Programs	10
2. Yield of First International Issuance after Approval of Fund-Supported Program vs. U.S. 5-year Sovereign Bond Yield	13
3. Growth Surprises	15
4. Inequality and Program Social Spending	16
5. Evenhandedness of Fund-Supported Programs	17
6. Delivery of Technical Assistance	19
7. Delivery of Technical Assistance and Reform Agenda	19
8. Current Account Balances	21
9. Exchange Rates Valuation	22
10. Size of Programs Against Financing Need	23
11. Fund Share in Total Official Financing	23
12. Current Account Adjustment vs. Projection	24
13. Current Account and External Debt Stabilizing Levels	24
14. Exchange Rate Regime Choices	25
15. Nominal Effective Exchange Rates	25
16. Changes in Real Interest Rates and Real Effective Exchange Rates	27
17. Actual and Programmed Level of Reserves	27
18. Select CPI and ULC-Based REER Changes	28
19. Internal Devaluation and Trend Growth	29
20. Internal Devaluation and Trend Growth Forecast Errors	29
21. Programmed Adjustment Relative to Fiscal Imbalance	32

22. Programmed Adjustment Relative to Output Gap	32
23. Composition of Program Fiscal Adjustment	32
24. Fiscal Balance Targets and Outcomes	34
25. Changes in Debt at Given Levels of Fiscal Adjustment	34
26. Impact of Fiscal Consolidation on Debt	34
27. Cyclically Adjusted Primary Balance and Output Gap	35
28. Large Debt Surprises	36
29. Decomposition of Changes in Debt/GDP Ratio	36
30. Restructuring and Non-restructuring Cases	37
31. European Banks' Consolidated Claims on Greece	38
32. CDS Spreads During the Euro Zone Debt Crisis	38
33. Number of Structural Prior Actions, Structural Performance Criteria, and Benchmarks per Program Year	42
34. Number of Prior Actions, Structural Performance Criteria, and Structural Benchmarks per Program Year: By Country	43
35. Structural Conditionality by Foreign Exchange Regime	43
36. Implementation of Structural Benchmarks and Performance Criteria Without Delay	45
37. Implementation of Structural Benchmarks vs. Number of Conditions	45
38. Prior Actions and Structural Benchmarks and Performance Criteria by Area of Expertise	46
39. Composition of Fiscal Conditionality	46
40. Fiscal Conditionality	46
41. Supply-side Conditionality	46
42. Non-financial Corporates and Households Balance Sheets	48
43. Balance Sheet Concerns and Investment/Consumption Growth During Programs	49
44. Banking Crises	49
45. Financial Sector Conditionality	50
46. Liquidity Support	51
47. Change in Capital Adequacy Ratio	52
48. Credit Impulse	52
49. Private Balance Sheet Conditionality by Areas	53
50. Private Non-financial Sector Program Ownership	53
51. Fiscal Policy and Private Non-financial Balance Sheets	55
52. Monetary Policy and Private Non-financial Balance Sheets	55
53. Non-financial Corporate Deleveraging	56
54. Households Deleveraging	56

TABLE

1. Monetary Program Design and Outcomes	26
---	----

REFERENCES

References	70
------------	----

ANNEXES

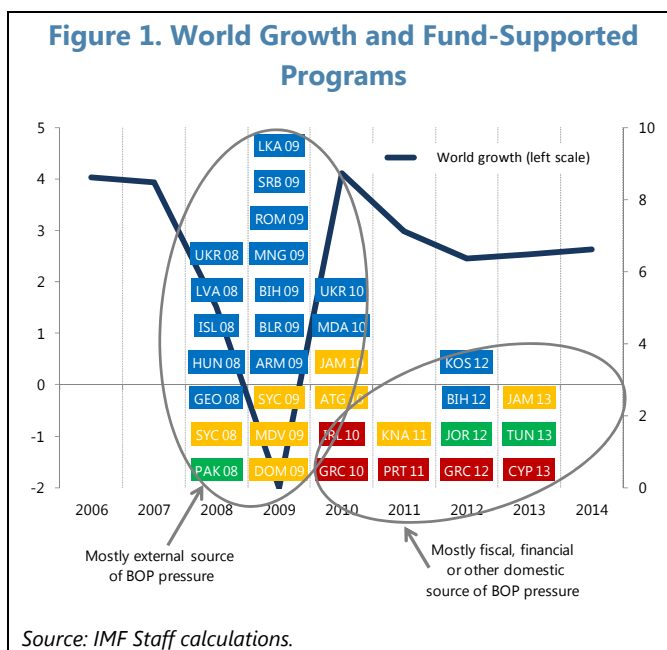
I. Fiscal Consolidation and Debt Dynamics	61
II. Structural Conditionality and Growth Payoffs	65
III. Classifying Private Balance Sheet Concerns	69

OVERVIEW OF CRISIS AND PROGRAM OUTCOMES

A. Overview

1. **In the early 2000s, the global economy experienced strong growth, loose monetary policy in advanced economies, and a boom in international capital flows.** Euro accession led to easier domestic financing conditions for several Euro Area countries, accompanied by financial liberalization.² Aggregate demand and credit growth were generally robust across the globe, boosting property and other asset prices. In several fast growing countries, rapid wage and price inflation eroded competitiveness and current account deficits emerged amidst fixed or managed exchange rates. Indeed, three years before their respective programs, all but one of the 27 countries covered in this review had some form of fixed or heavily managed exchange rate arrangement. Large current account deficits were justified in part by convergence with creditor countries, but rather than financing productivity-enhancing investment, foreign saving frequently financed asset booms, including real estate (Ireland, Iceland, Latvia, and Portugal), and supported government consumption (Greece).

2. **The demise of Lehman Brothers in September 2008 triggered a sudden loss of confidence in many countries, a spike in counterparty risk, and a collapse in activity.** In several economies, capital inflows stopped or reversed, financial systems came to an abrupt halt, and external stability problems emerged. Countries with strong trade linkages with crisis-hit countries experienced sharp falls in external demand that exposed underlying vulnerabilities. As the crisis persisted and global growth remained weak, economies less directly exposed to the initial shock also started to experience balance of payments difficulties (Figure 1).



3. **As troubled economies sought official financial support, the demand for Fund resources rose to unprecedented levels.** The Fund approved financial arrangements under the General Resources Account (GRA) in the amount of SDR 420 billion during 2008–13. Arrangements from which members made drawings accounted for SDR 167 billion, of which nearly SDR 119 billion was drawn during this period.

² For a discussion, see Wolf (2015).

Outstanding IMF credit, including both GRA and PRGT resources, rose from under SDR 10 billion in 2007 to over SDR 90 billion in 2013, declining with repayments to nearly SDR 60 billion as of June 2015.

4. **The International Monetary and Financial Committee (IMFC) has requested reviews of Fund-supported programs undertaken since the global financial crisis.** The first such review took place in September 2009 amid the surge in IMF lending after the collapse of Lehman Brothers and was followed by updates to the Executive Board in 2010–12. A general conclusion was that program objectives and recommended policies in the first wave of arrangements approved in 2008–09 (mainly for non-Euro Area Europe) were largely appropriate; by contrast, the challenges faced by the second wave of arrangements approved in 2010–11 (focused on Euro Area members) were greater and it was less clear that program financing and policies were adequate to meet them.

5. **This paper responds to the request for an updated review of crisis programs. It reviews the performance of Fund-supported programs since the outbreak of the global financial crisis with a view to drawing lessons for future program design.** It takes into account the conclusions of the previous reviews, subsequent developments, and the 2014 Independent Evaluation Office (IEO) report on the IMF's response to the crisis.³ The review seeks to assess program countries' progress toward addressing external and internal imbalances and whether program objectives and policy recommendations were appropriate given the initial imbalances and structural problems. The assessment is mindful of the role played by the authorities' ownership and implementation of program policies, external demand conditions, and other countries' policies on the effectiveness of Fund-supported programs. It is also cognizant of the context in which programs were designed, including the extraordinarily high degree of uncertainty that existed after the collapse of Lehman Brothers and during the Euro Area crisis. Experience in the recent program cases is compared with the experience of countries that did not request Fund support and with that of countries that made use of Fund resources in earlier programs.⁴

B. Analytical Country Groupings

6. **The crisis affected countries through different transmission channels and over different timeframes.** Some were affected directly through a disruption of credit flows, others indirectly by trade and financial spillovers, and yet others only generally by the weak global growth environment that made external adjustment harder. An *analytical* grouping of countries along these lines corresponds broadly to *regional* groupings as follows:

³ See IMF (2014b).

⁴ Comparisons with earlier Fund-supported programs mainly refer to the largest Fund arrangements (excluding successor programs) between 1995 and 2007, including Mexico (1995), Russia (1999), Indonesia, Korea, and Thailand (1997), Brazil and Philippines (1998), Turkey (1999), Argentina and Ecuador (2000), and Uruguay (2002). Apart from Albania (2006) and Dominican Republic (2005), and successor arrangements for Turkey and Uruguay in 2005, there were no further disbursing GRA arrangements in the 2004–07 run-up to the global financial crisis.

- A group *mostly comprising European emerging markets* required Fund financial support in 2008–09 when capital flows dried up at the start of the crisis. This group includes Georgia, Hungary, Iceland, Latvia, Ukraine (2008 and 2010), and Armenia, Belarus, Bosnia and Herzegovina, Mongolia, Romania, Serbia, and Sri Lanka (requests in 2009).⁵ Later arrangement requests from Moldova (2010) and Kosovo (2012) were similar in character.
- Several *small highly open economies* had domestic vulnerabilities that were exposed by the disruption they experienced through their trade, tourism, and financial linkages with the United States and crisis-affected countries. These economies were the Seychelles (2008), Dominican Republic, Maldives (2009), Antigua and Barbuda, Jamaica (2010), and St. Kitts and Nevis (2011).⁶
- The *Euro Area crisis countries* of Greece (2010, 2012), Ireland (2010), Portugal (2011), and Cyprus (2013) faced problems that were partly associated with the global crisis but whose more immediate origin was their public and private balance sheet vulnerabilities and the accumulation of large current account imbalances within the Euro Area.
- Some *Middle East and North African* (MENA) countries faced fiscal and structural vulnerabilities that were heightened by the global crisis (Pakistan, 2008) or strained by the economic dislocations associated with the 2011 Arab Spring (Jordan, 2012; Tunisia, 2013).

C. Program Design

7. Program design had to take into account particularly difficult initial conditions.

Coming out of the Great Moderation many countries had large current account deficits, overvalued exchange rates, and high public and private debt. External adjustment was constrained by weak external demand, limited scope for exchange rate adjustment under existing exchange rate regimes and, in several cases, concerns that large or sudden exchange rate depreciation could lead to balance sheet disruptions arising from large foreign exchange liabilities.⁷ Balance sheet adjustment was also complicated by the fact that where the public sector, households, and corporates all sought to deleverage, the reduction in spending undercut domestic demand and contributed to raising the real burden of debt further.⁸ With domestic financial systems being important creditors of the private and public sectors, debt restructuring options seemed constrained by the impact they might have on banks' balance sheets and, therefore, financial intermediation. Low global inflation limited the extent to which inflation could reduce real debt burdens.

⁵ Ukraine had a successor arrangement in 2010, and Bosnia and Herzegovina in 2012.

⁶ Seychelles had a successor arrangement in 2009 and Jamaica in 2013. For purposes of this review, small states are defined broadly to include the Dominican Republic and Jamaica, both of which have populations larger than the traditional cut-off of 1.5 million used to define small states.

⁷ Countries for which balance sheet risks from exchange rate depreciation were an explicit concern in arrangement requests included the Dominican Republic, Georgia, Iceland, Jamaica, Latvia, and Ukraine.

⁸ Household balance sheet concerns were evident in Armenia, Cyprus, Georgia, Iceland, Ireland, Latvia, Romania, and Ukraine; while non-financial corporate balance sheet concerns were identified for Armenia, Cyprus, Hungary, Iceland, Ireland, Jamaica, Latvia, Maldives, Portugal, Romania, and Ukraine.

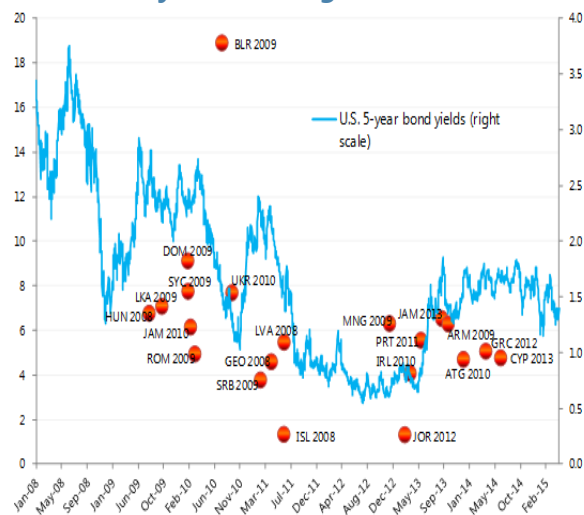
8. **In addressing these challenges, program design needed to find the right balance between large upfront adjustment and more gradual approaches.** Program design was conducted in the context of often unprecedented circumstances, such as a particularly weak global economy and large adjustment needs, and an environment of unusual uncertainty in the early stages of the crisis and intervening episodes. In general, unlike earlier programs, the recent crisis programs leaned toward more gradual approaches, seeking to restore competitiveness through modest depreciation or internal devaluation rather than substantial exchange rate correction, to strengthen debt sustainability through fiscal consolidation rather than debt restructuring, and to address banking sector concerns through recapitalization rather than closing insolvent banks.⁹ Large imbalances and limited exchange rate flexibility led to protracted adjustments that entailed large financing.

9. **The programs co-financed with RFAs and those with members of currency unions highlighted special considerations for the design of Fund-supported programs.** Under currency unions, effective control over several policy levers—monetary, exchange rate and financial policies—lies with union-wide institutions rather than the individual country. For programs designed in close collaboration with an RFA, it is important to clarify the roles of various institutions, including the Fund’s responsibility for aspects such as the macroeconomic framework and debt sustainability analysis, and to ensure that conditionality applied by the Fund and RFA remains parsimonious and macro-critical when considered in aggregate.

D. Program Outcomes

10. **Fund-supported programs during 2008–13 helped the global economy avoid the feared counterfactual outcome of an even deeper and more severe crisis.** Programs helped the global economy and most program countries weather the effects of the crisis. The decline in output from its previous artificially elevated levels was cushioned, imbalances were reduced, and financial systems stabilized. A range of emerging economies and small states were able to handle the collapse of trade and financing flows; the Euro Area gained time to build firewalls against contagion; and reforms and

Figure 2. Yield of First International Issuance after Approval of Fund-Supported Program vs. U.S. 5-year Sovereign Bond Yield



Sources: IMF staff estimates; and Bloomberg

⁹ As discussed in the section on Debt Sustainability, public debt restructuring was adopted in only 7 of the 32 program cases and it typically featured an extension of maturities (Antigua and Barbuda; Cyprus), sometimes accompanied by reduced coupon rates (Jamaica), rather than a reduction in face value.

confidence in the MENA economies were shored up after the 2011 Arab Spring. As of early 2015, about $\frac{3}{4}$ of the program countries had regained market access (Figure 2), and a third had substantially reduced their reliance on IMF financing. Only 5 of the 27 program countries required successor arrangements. Program outcomes reflected the fact that the focus of program design varied across countries based on the problems countries faced. Good progress was made, for example, in tackling financial sector strains in Iceland, Ireland, and Latvia, while effective external adjustment was achieved in Fund-supported programs for Armenia, Latvia, Seychelles, and Sri Lanka. Appropriate fiscal adjustment was achieved by Cyprus, Jordan, and Greece (2012), and broad structural reforms were successfully implemented by Armenia, the Dominican Republic, Hungary, Jamaica (2013), and Seychelles.

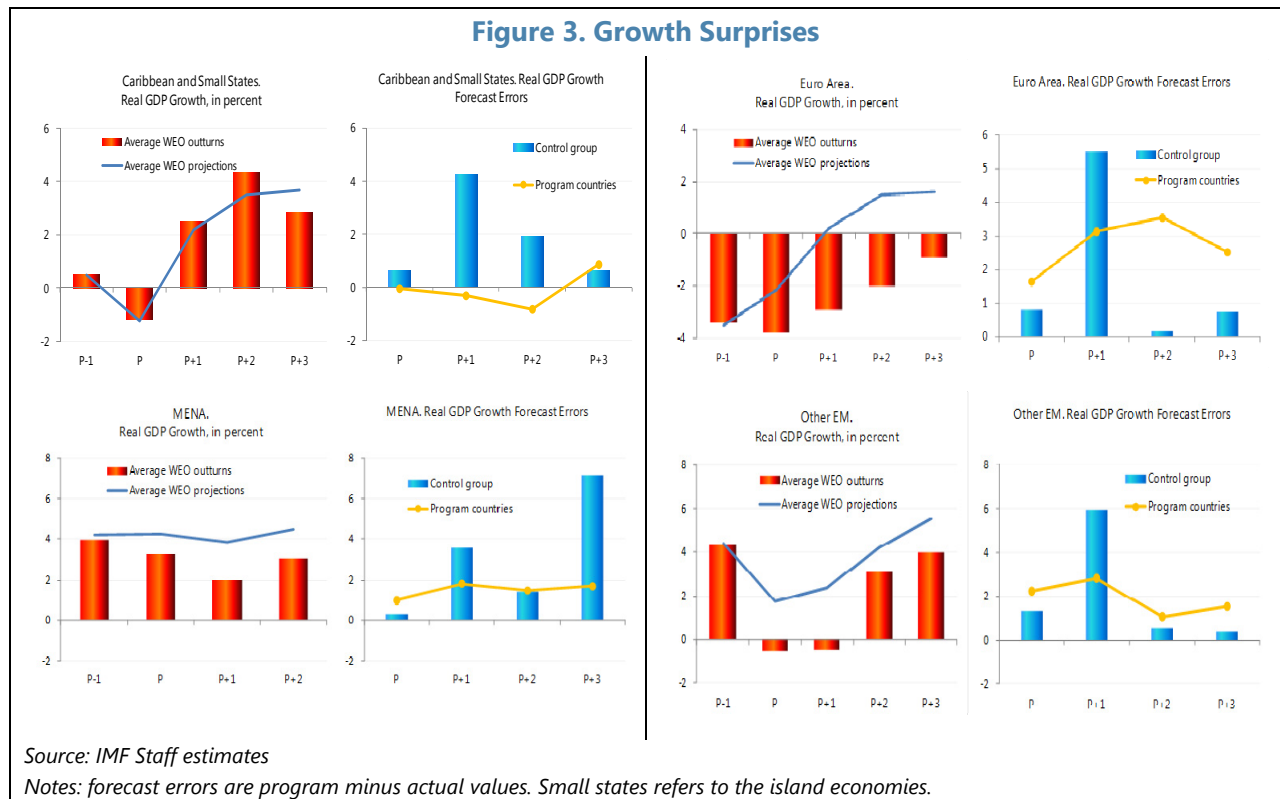
11. **The Fund helped to chart a way through the crisis, using experience to inform future program design and contributing to the strengthening of frameworks and firewalls that gradually broadened the array of feasible policy choices over time.** Program design was tested by new risks and uncertainties. Given the radical differences between the 2008 crisis and its predecessors during previous Fund experience, the Fund like other institutions faced significant uncertainties about the shocks, transmission channels, and appropriate policy responses. The Fund was able to identify and share solutions from the formulation and implementation of Fund-supported programs in this environment. Program outcomes helped inform the design of later Fund-supported programs; for example, program design changed over time to include a stronger emphasis on addressing the challenges to internal devaluation and increasingly focused on restarting credit intermediation. The experience with Euro Area programs informed the Fund's recommendations for strengthening firewalls and developing banking union. More generally, the Fund's engagement in supporting programs across 27 countries provided it with the expertise needed to inform, advise, and help in the coordination of a global response.

12. **While a few countries adjusted relatively quickly, in many cases underlying vulnerabilities remain.** The restoration of market access has occurred amidst easy global financial conditions with its durability still to be tested and debt is relatively elevated. Unemployment remains high and growth has generally disappointed, reflecting weak global demand, little exchange rate adjustment, large fiscal multipliers, and a reduction in potential growth notwithstanding structural reforms. In part, this picture reflects the protracted nature of the recovery from financial crises and the difficulty of achieving adjustment in the context of a weak global environment.

13. **Growth projections for the world and key countries were revised down serially over time, as reflected in the WEO and market consensus forecasts.** The growth disappointments reflected the difficulty of making forecasts amidst uncertain global demand conditions following the crisis, drags from private sector deleveraging on demand, and unforeseen downward revisions to potential growth. Growth shortfalls also reflected larger than expected multipliers in the context of ambitious fiscal adjustment, modest short-term dividends from structural reforms, limited progress in restoring competitiveness, and, in some cases, worsening security conditions and political turmoil. For program countries too, growth fell short of projections, especially in the Euro Area programs, although not in the Caribbean and small states (Figure 3). This pattern seems consistent with the

2014 IEO finding that current-year forecasts in exceptional access programs were initially optimistic.¹⁰

14. **Inflation outcomes were mixed relative to projections.** Fund projections were not consistently too high or low, for both program and non-program countries. Inflation turned out to be broadly in line with projections for small states programs, higher than programmed in the Euro Area, and lower than programmed in other emerging markets cases.

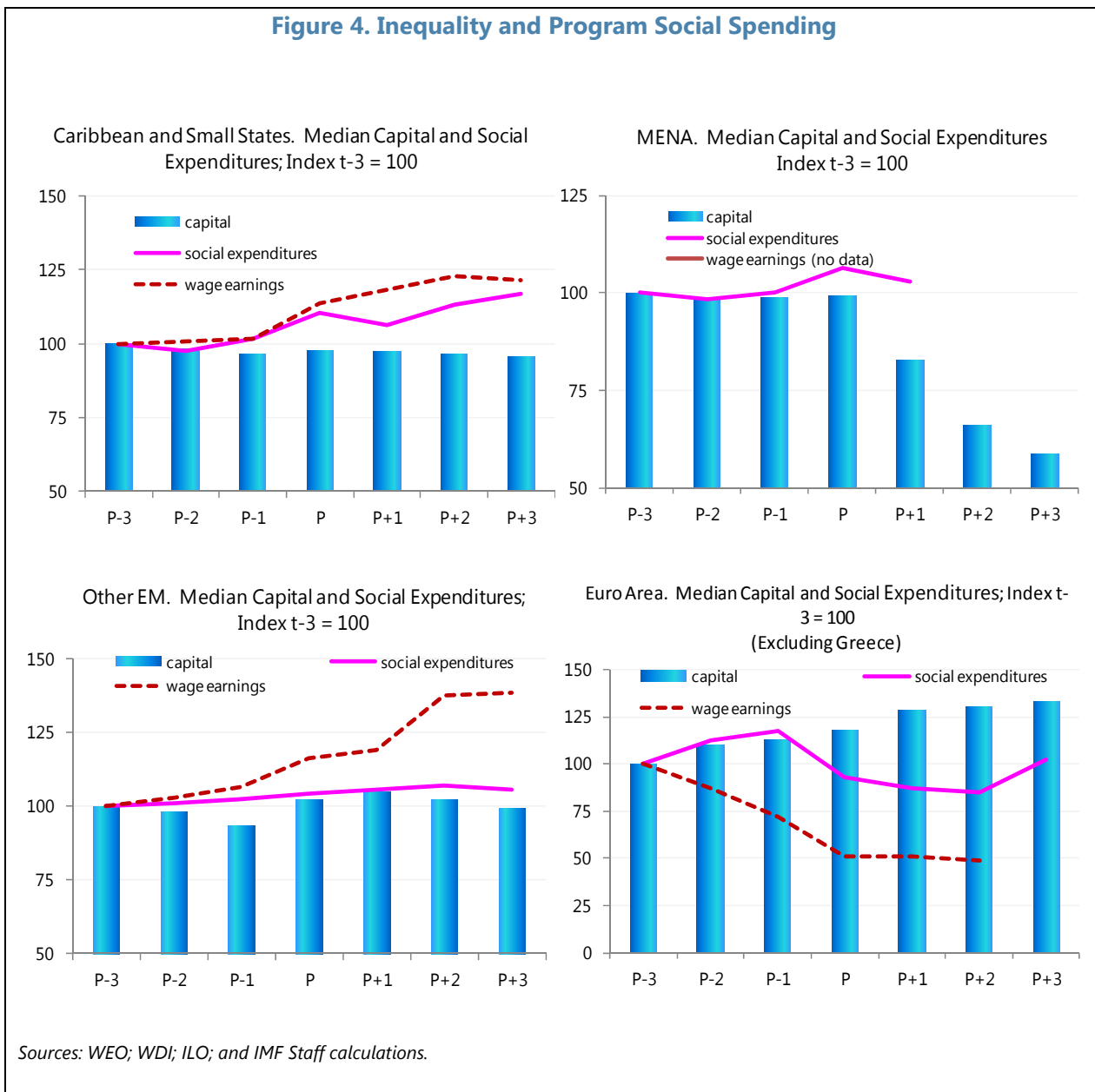


15. **Social benefit spending was generally protected, but income inequality trends varied.** Traditional indicators such as the expenditure-based Gini coefficient show some narrowing of inequality, suggesting program design was effective in protecting low-income groups. Proxies for income disparities based on estimates of labor and capital income shares show that for small states and non-European emerging markets, labor income rose relative to capital income during the program period. In Euro Area programs, however, capital income shares generally rose during the programs while labor income shares have fallen over time, suggesting some redistribution away

¹⁰ See IMF (2014c), Background Paper (BP/14/05). The IEO report analyzed 103 Fund-supported programs for the period 2002–11, finding a weak (insignificant) tendency toward optimism in current-year and year-ahead growth projections at the time of arrangement approval. On average, this error was fully corrected in the first program review. For exceptional access programs, a larger (statistically significant) optimistic bias in current-year growth forecasts was identified—again promptly corrected at the first review.

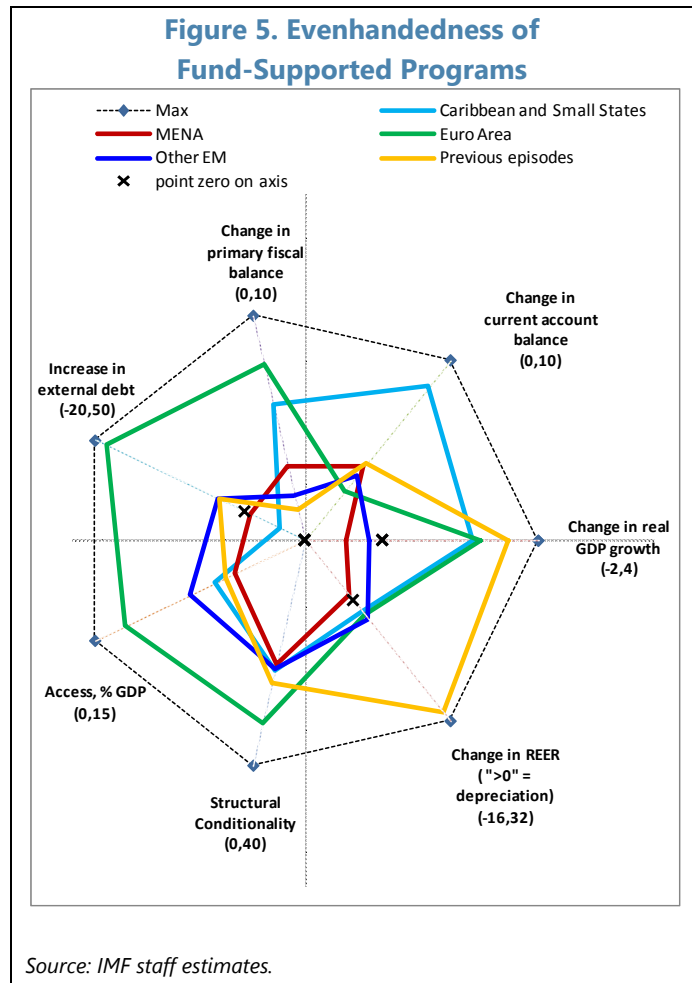
from labor. Many programs were successful in safeguarding social expenditures at pre-program levels, or in increasing social spending (Caribbean and small states), although Euro Area programs saw a small decline in such spending-to-GDP ratios in the context of large fiscal adjustments (Figure 4; discussed further in the Fiscal Adjustment section below).

Figure 4. Inequality and Program Social Spending



E. Evenhandedness

16. **Program design was generally tailored to country circumstances, sharing similar features across countries that faced similar challenges and circumstances.** Programs targeted different degrees of fiscal adjustment depending on the size of initial fiscal imbalances and the strength of economic activity, being largest in the Euro Area programs (Figure 5). External current account adjustment objectives varied across programs, being largest in small states, where initial imbalances were large. Structural reform content also varied across programs, as measured by the number of structural benchmarks and structural performance criteria, which were more numerous in Euro Area programs needing to achieve internal devaluation or in successor arrangements, where reforms were intensified to tackle unaddressed challenges. These observations echo the findings of the 2011 IMF Review of Conditionality for Fund-supported programs during 2002–11.¹¹



17. **Program design in the recent crisis programs differed from previous program episodes in response to different circumstances as well as lessons from previous experience.** As in the past, programs focused on restoring external and fiscal sustainability, improving competitiveness through structural reforms, addressing balance sheet problems in the financial sector, and strengthening financial supervision and regulation.

18. **Access to Fund financing reflected country circumstances.** The large size of some recent arrangements, notably in the Euro Area, reflected relevant members' adjustment challenges, financial development, and close integration with global financial markets. The latter consideration also gave rise to concerns about systemic contagion that motivated a modification in the Fund's exceptional access policy (IMF, 2013). Access as a percent of GDP was largest in Euro Area programs, commensurate with relatively ambitious fiscal and structural reform objectives. The 2011 Review of Conditionality also noted that programs with higher and more front-loaded access generally

¹¹ See IMF (2012).

involved countries experiencing capital account crises, which tend to impose larger balance of payments pressures.

19. **Program design in the context of currency union members recognized the important influence of union-wide policies on the economic situation of the member.** Where the success of a Fund-supported program depended on policies implemented by a regional central bank or other union-wide authorities, the Fund sought assurances on how this policy change would be implemented. In some cases, this took the form of conditions to be implemented by the union wide institution (St. Kitts and Nevis, Antigua and Barbuda). In others, such as for financing assurances in the Euro Area programs, formal commitments were stated in Eurogroup press releases and reflected in staff reports.¹² Finally, some policy changes at the union wide level that were supportive of program goals (banking union, monetary policy) were not made conditions or safeguards commitments and instead were part of the advice provided in the regular surveillance discussions with EU institutions on Euro Area policies in the context of Article IV consultations with member countries.¹³ The different approaches reflected, in part, the nature of the intended policy changes: the cases which used conditions referred to regulatory and supervisory actions within the purview of the union-wide institution that affected the program country but not other members of the currency union.

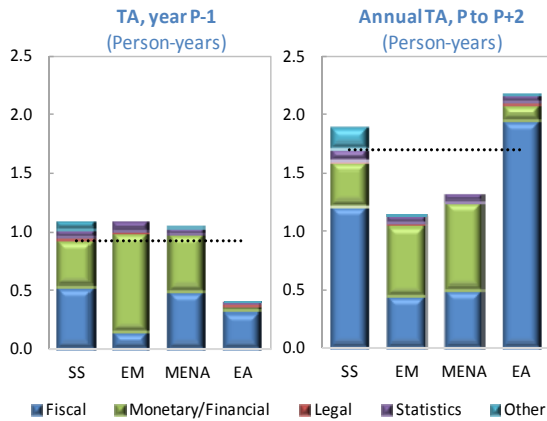
F. Technical Assistance

20. **IMF technical assistance (TA) played an important role in supporting policy implementation in recent programs.** On average, TA delivery to program countries nearly doubled compared to the pre-program year, measured in person-years (Figure 6). TA increased most significantly for Euro Area programs (up from a very low pre-program base) and for small states. The largest program TA recipients were Antigua and Barbuda, followed by Greece, Cyprus and Ukraine. Among the Euro Area programs, Ireland was an exception that received virtually no TA during its Fund-supported program, reflecting its strong institutional capacity. Fiscal expertise accounted for most of the increase in TA to Euro Area countries and to small states. While TA rose less markedly for other emerging markets and MENA countries, it was refocused on fiscal TA for emerging markets and on financial TA for MENA countries. Overall, delivery of technical assistance was closely related to the ambition of the countries' reform agendas, as proxied by the number of conditions per program year (Figure 7).

¹² See Eurogroup press release of November 27, 2012, and IMF (2013a).

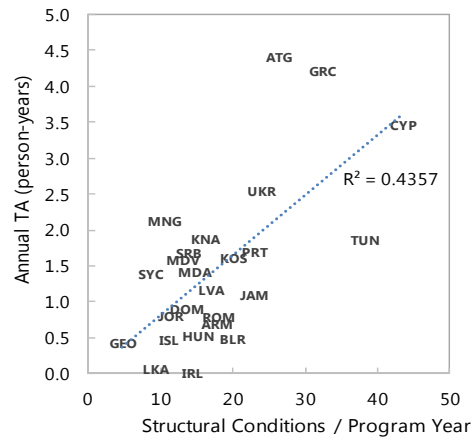
¹³ See IMF (2012a).

Figure 6. Delivery of Technical Assistance ^{1/}



1/ Technical assistance areas correspond to the following IMF departments: FAD, MCM, LEG, STA, and other.

Figure 7. Delivery of Technical Assistance and Reform Agenda



Box 1. Recent Experience with the Flexible Credit line (FCL), Precautionary Credit Line (PCL), and Precautionary and Liquidity Line (PLL)

In 2009–10, the Fund introduced the Flexible Credit Line (FCL) and the Precautionary Credit Line (PCL) for countries with very strong (or “sound” in the case of the PCL) economic fundamentals, institutional policy frameworks, and policy implementation records. The new instruments were part of a broader reform of the IMF toolkit in response to the 2008 crisis. The instruments aimed to bolster confidence in the member qualifying for these instruments, reduce the stigma of Fund support by involving reduced or no ex post conditionality, and strengthen crisis prevention by offering Fund support ahead of a crisis.

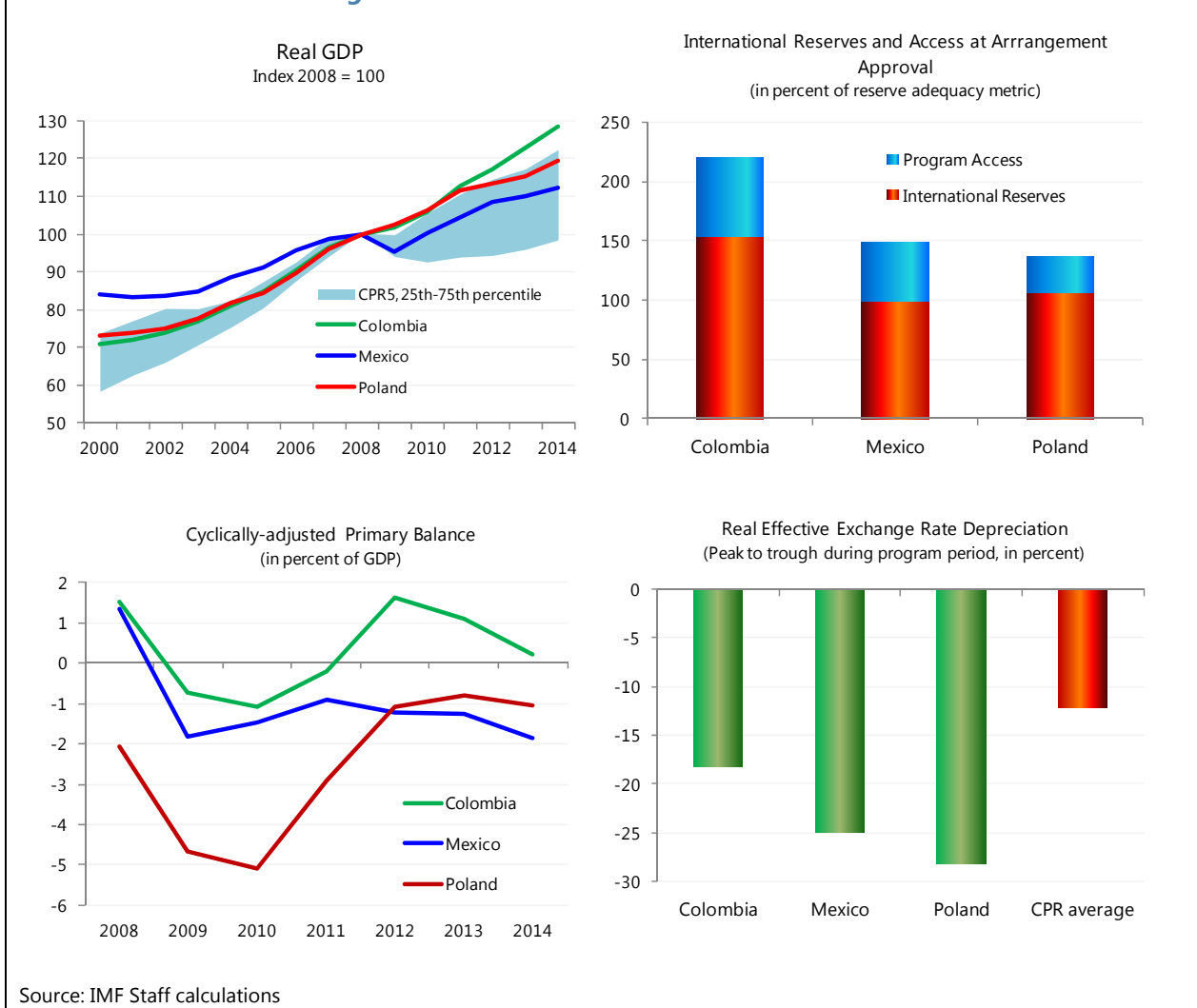
Since the creation of the instruments, three countries have used the FCL (Colombia, Mexico, and Poland) and two countries have used the PCL or its successor the Precautionary and Liquidity Line (PLL) (FYR Macedonia and Morocco). Of the five countries, only FYR Macedonia has ever drawn upon its precautionary facility. The nature of the vulnerabilities that motivated their request varied across the 5 countries including vulnerability to commodity price shocks (Colombia and Morocco), significant non-resident portfolio investment (Mexico and Poland), and exposure to the crisis in the Euro Area (Morocco and Poland). By definition, the extent of vulnerabilities was greater in the PCL/PLL cases, but all countries had relatively strong fiscal frameworks, robust institutions, and (except for Macedonia and Morocco) were helped by their flexible exchange rates.

During the crisis, Colombia and Poland avoided a contraction altogether and Mexico quickly recovered from a one-year recession (Box Figure 1 below). In addition to stronger fundamentals, aspects of these countries’ policies contributed to this outcome, as documented in FCL reviews (IMF (2014d)):

- First, these countries sought out additional external buffers (FCL, Central Bank swaps) before there was a balance of payments need. Coming early for insurance helped limit contagion and a capital account crisis.
- Second, they had the space to pursue counter-cyclical fiscal policy. Cyclically adjusted fiscal positions widened by about 3 percent of GDP in all three FCL users. Access to the FCL helped reassure markets amid the additional borrowing.
- Third, despite larger external buffers and smaller imbalances, they allowed exchange rate adjustment throughout the crisis. Real exchange rates depreciated peak to trough by 25 percent, more than double the adjustment in the CPR sample.

While the degree to which these policies represent implementable lessons for the CPR sample is constrained by the fact that the available policy tool kit is itself a function of fundamentals, institutions, and existing imbalances, the experience of the FCL users underscores the importance of building buffers in good times and the capacity of such buffers to mitigate the impact of shocks in a crisis.

Box 1. Figure 1. Macroeconomic Performance of FCL Cases



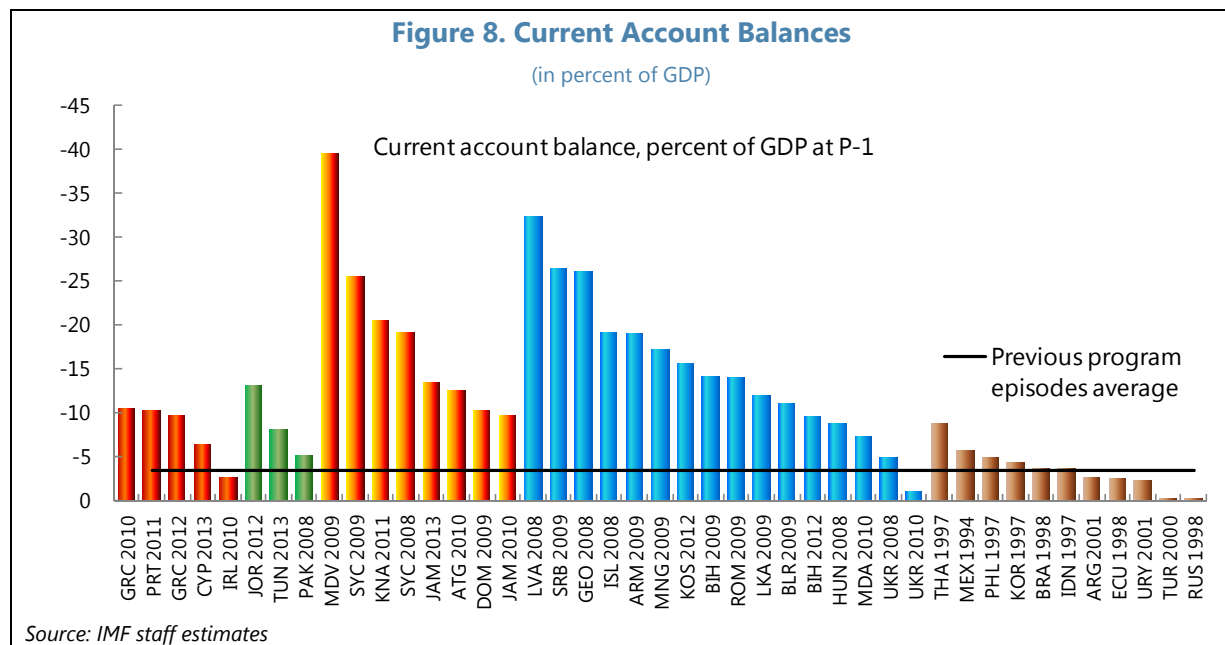
EXTERNAL ADJUSTMENT

Program countries generally entered the crisis period with large external current account deficits and exchange rate overvaluation that partly owed to rapid credit growth before the crisis. Program objectives were tailored to country-specific circumstances, but large initial external imbalances, together with weak global demand and limited exchange rate flexibility, implied a protracted and painful adjustment in many cases and limited the progress in restoring external viability. In general, greater exchange rate adjustment helps to address external gaps with a less adverse impact on output. If foreign currency liabilities are substantial, steps are needed to mitigate the impact of currency depreciation on balance sheets. For countries where nominal exchange rate adjustment is not a realistic option, for example those in currency unions, program design should recognize that internal devaluation may require large macroeconomic adjustment and deep structural reforms sustained over long periods that can exceed the standard 3–4 year period of Fund-supported programs, and also

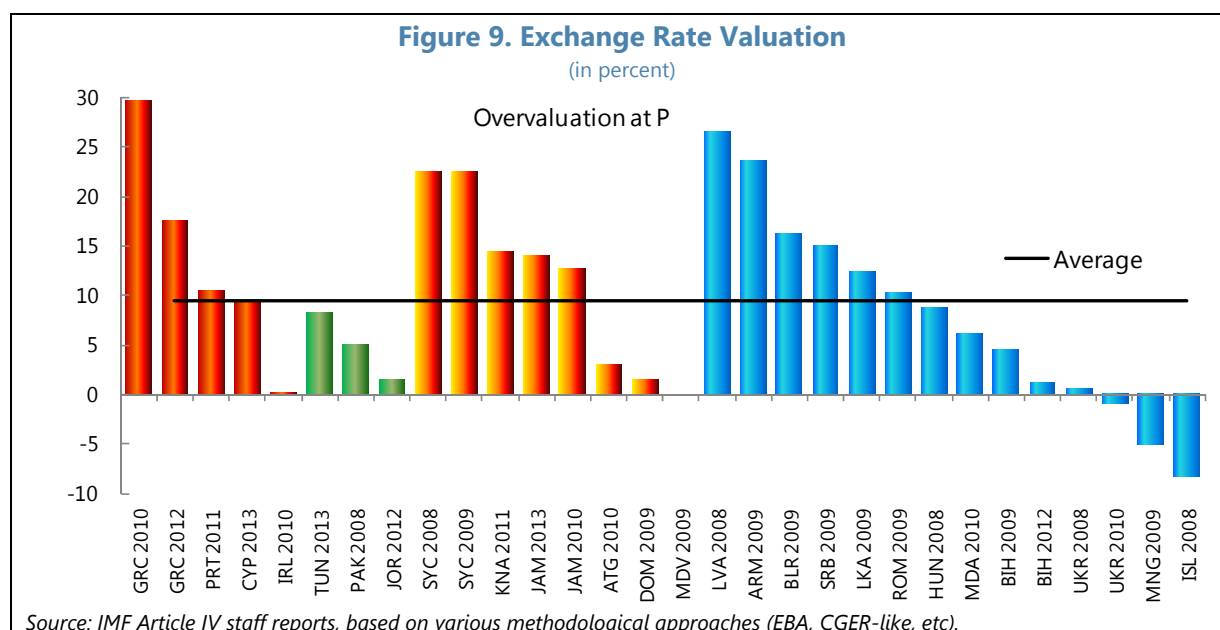
require large and continued financing. The policies of the currency union as a whole can importantly influence the economic situation of individual members.

A. Overview

21. **Program countries entered the crisis with larger external imbalances than countries typically had in earlier Fund-supported programs.** Easy global financial conditions in the run up to the crisis had fueled rapid credit growth that widened current account deficits and moved exchange rates away from fundamentals. Exchange rates, which were generally fixed or heavily managed, often had overvaluations well over 10 percent (Figures 8 and 9).¹⁴ When the crisis came and triggered a sharp rise in global risk aversion, most countries experienced a sudden stop in capital flows that was large compared to earlier programs.



¹⁴ At program start, currencies were overvalued by an average of about 10 percent, with a few currencies overvalued by over 20 percent (Armenia (2009), Greece 2010, Latvia (2008), and Seychelles (2008 and 2009)); this was similar to the average for earlier programs (Figure 8).



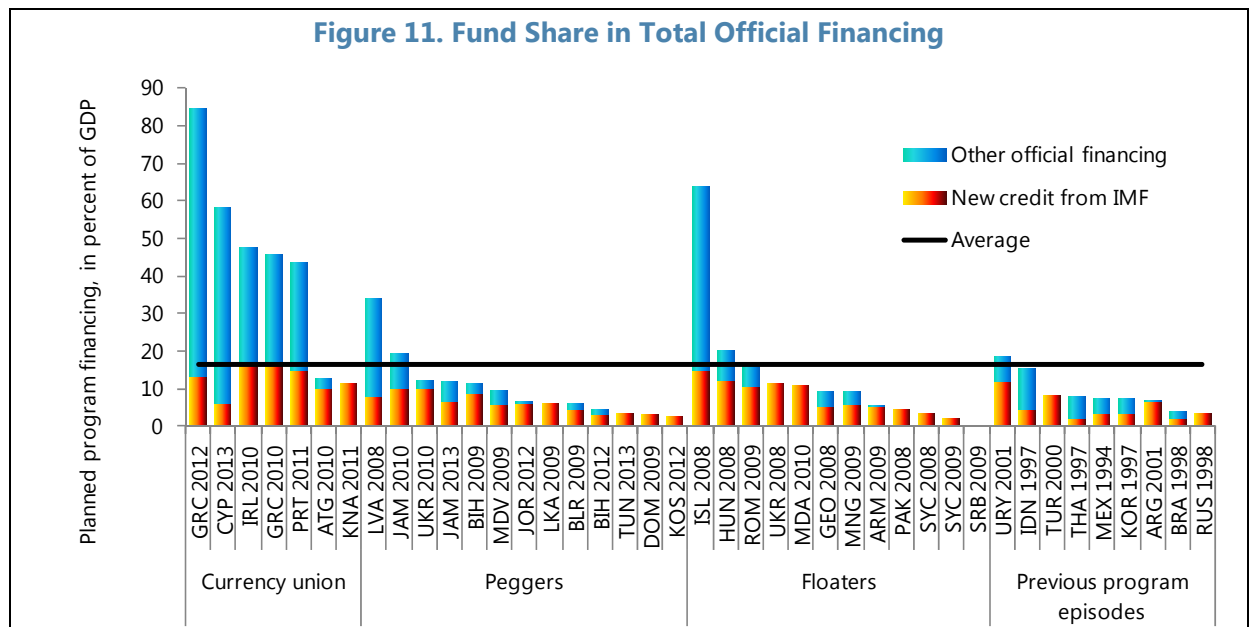
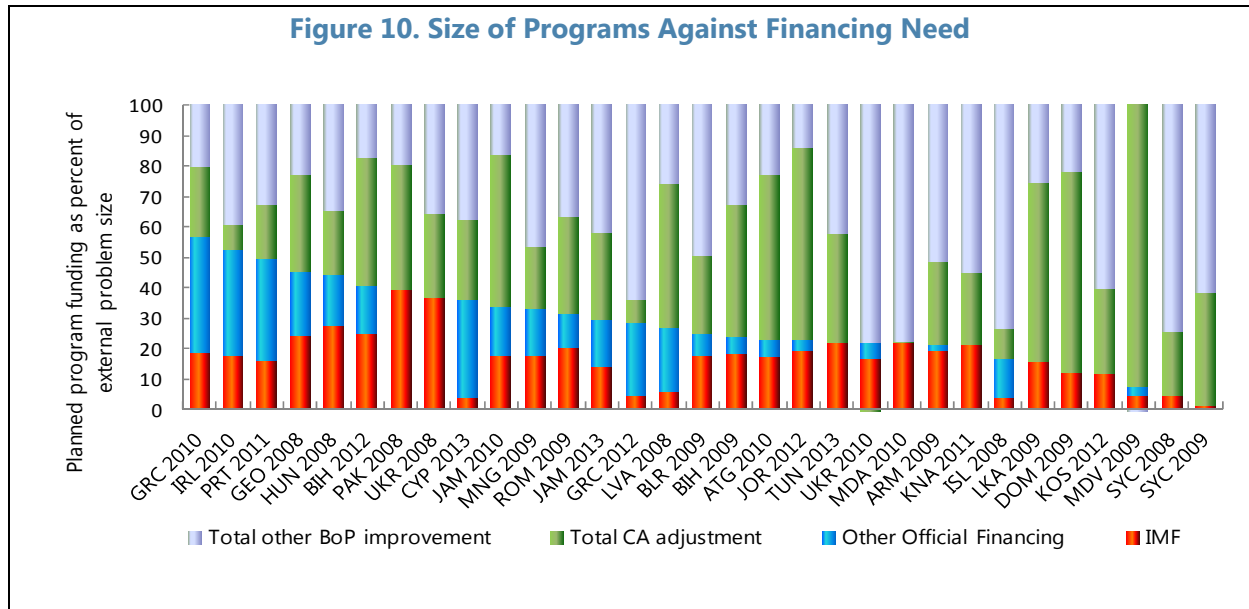
B. Objectives and Outcomes: Addressing Balance of Payments Gaps through Financing and Adjustment

22. **Programs relied on a mix of adjustment and official financing to address balance of payments shortfalls.** The balance between adjustment and financing that was sought varied significantly across the sample, reflecting countries' differing access to exceptional support from partner countries, the extent to which economic shocks were expected to be temporary or permanent, and the scope for rapid exchange rate adjustment (Figure 10).

23. **Financial support from other official creditors often occurred alongside Fund financial support.** The relative "burden sharing" between the Fund and other official creditors depended on circumstances that differed from program to program (Figure 11). Some cases, such as those in the Euro Area, lent themselves more directly to burden sharing due to the presence of financing partners with access to substantial reserve currency funding capacity. In many of these cases, the financing need was particularly large, and constraints on the Fund's own balance sheet increased the need for other creditors. While the Fund's proportionate contribution to official sector financing varied considerably, Fund financing in absolute terms was large. Over half of the recent programs entailed exceptional access to Fund resources (19 out of the 32 programs).¹⁵ Euro Area programs were some of the largest in the Fund's history, both in SDR terms and as a percent of

¹⁵ The IMF can lend amounts above normal limits on a case-by-case basis under its Exceptional Access policy (see IMF Decision No. 14064 (08/18), as amended), which entails compliance with substantive and procedural requirements, including enhanced scrutiny by the Fund's Executive Board. During the current global economic crisis, countries facing acute financing needs have been able to tap exceptional access SBAs and extended arrangements under the EFF.

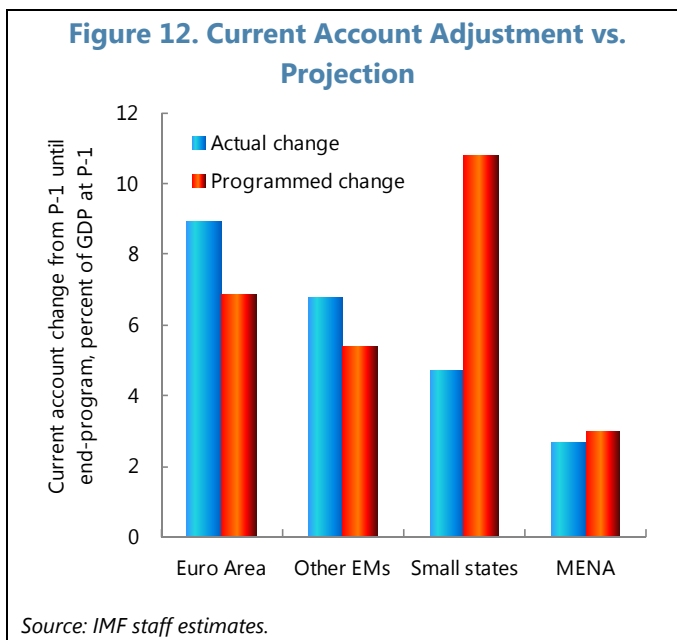
quotas, reflecting the size of their financial systems, their adjustment challenges, and their close integration into global capital markets. Access expressed as a share of financing need was comparable to many non-Euro Area programs (Figure 10).



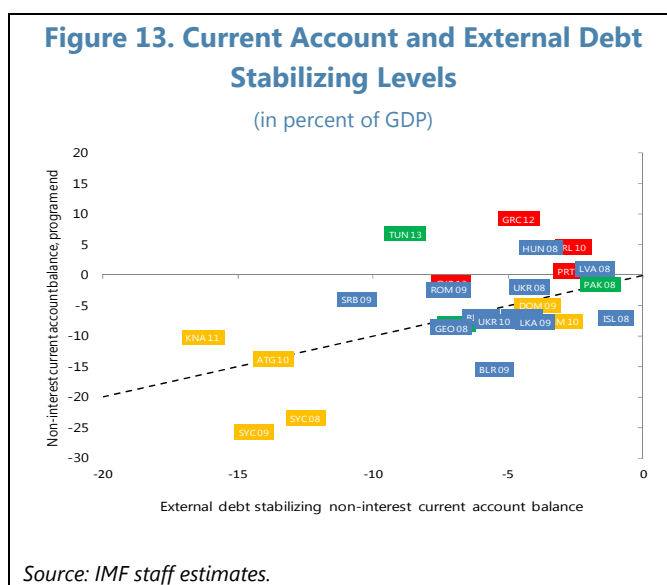
Source: IMF Staff calculations

Note: The initially precautionary Serbia 2009 arrangement was augmented and turned into a drawing arrangement soon after approval. Actual financing may be less than planned financing.

24. **The extent of external current account adjustment varied across programs.** In general, the Euro Area and emerging market program cases adjusted by more than projected, and small states by less, while adjustment in MENA programs was roughly in line with projections (Figure 12). Compared to earlier program cases, external adjustment was larger in Euro Area and emerging market programs, but smaller in the small states and MENA programs. External debt outcomes ran counter to expectations given the current account adjustment. Despite larger-than-programmed current account adjustment, external debt as a percent of GDP in the Euro Area cases remained higher-than-programmed, largely due to weaker output. Meanwhile, small states achieved initial objectives of reducing external debt levels: additional borrowing to finance higher-than-programmed current account deficits was offset by substantial debt relief for the Seychelles. External debt outcomes disappointed in other emerging markets and MENA countries.



25. **The sustainability of the external current account adjustment remains to be tested.** Even where countries have regained access to financing, current account deficits often remain above debt-stabilizing levels (Figure 13). Real exchange rates have typically adjusted little, and current account adjustments have instead reflected a compression of demand, suggesting external gaps may re-emerge as activity recovers.

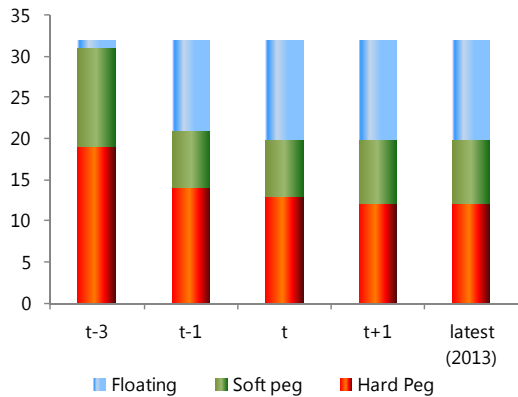


C. Exchange Rate Policies

26. **While programs designed around fixed or managed exchange rates are not new, the limited reliance on exchange rate adjustment to complement expenditure reduction as a means of adjustment in recent crisis programs is a difference from the approach in previous episodes.** Fund-supported programs often seek adjustment in the form of both demand management policies (such as fiscal consolidation) to reduce domestic absorption and expenditure switching policies (such as nominal exchange rate adjustment) to redirect production toward

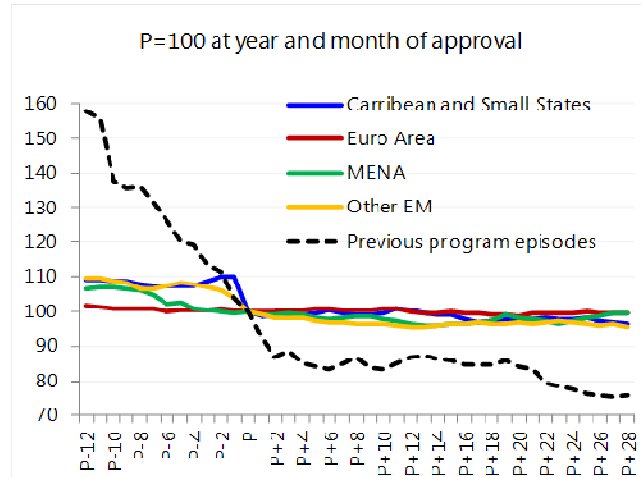
tradable sectors. As noted, before the crisis, all but one of the recent program countries had some form of fixed or heavily managed exchange rate (Figure 14). In the years since the crisis broke, about half of the sample has moved toward some greater flexibility, but the actual variation in nominal exchange rates remains far below that of earlier program cases (Figure 15). Only in Iceland and the Seychelles did the nominal exchange rate depreciate significantly.

Figure 14. Exchange Rate Regime Choices
(number of countries)



Sources: IMF Staff estimates.

Figure 15. Nominal Effective Exchange Rates
(P=100 at year and month of approval)



27. **The different approach to exchange rate policy compared with earlier programs reflects a number of factors.** For program countries in currency unions, currency union membership was taken as given for program design purposes (Euro Area and East Caribbean Currency Union programs). Outside this group, however, most programs sought to maintain pegs at close to pre-program levels (Latvia) or pursue managed, gradual depreciation (Jamaica). In these cases, program design around more stable exchange rates reflected, in part, recognition of the balance sheet risks associated with large or abrupt exchange rate depreciation (Dominican Republic, Georgia, Iceland, Jamaica, Latvia, and Ukraine) as well as responded to the authorities’ strong commitment to the peg (Jordan and Latvia).

D. Monetary Program Design

28. **In several cases, exchange rate stability provided a nominal anchor for monetary programs.** Inflation outcomes were close to program projections in a global environment of weak growth, low inflation, and depressed commodity prices in the aftermath of the global financial crisis (Table 1). Programs designed around pegged exchange rates and inflation targeting regimes saw

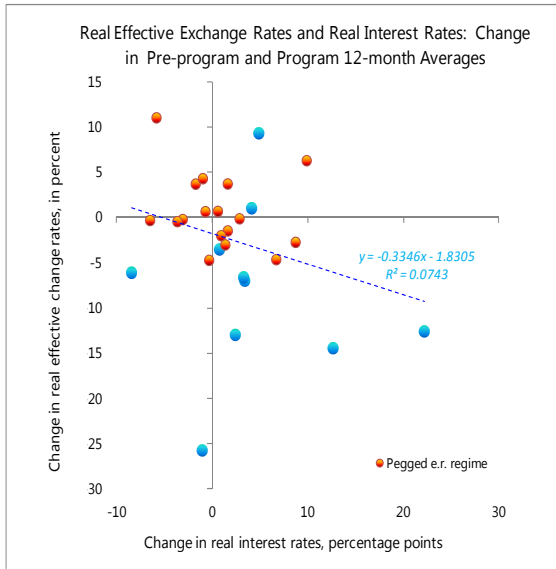
smaller inflation surprises than regimes based on monetary targets such as net domestic asset or base money ceilings. Overall, operational monetary targets were met more consistently than under earlier programs, possibly because large inflation surprises in the latter complicated monetary management.

Table 1. Monetary Program Design and Outcomes					
	Number of Programs	Actual Minus Projected Inflation^{1/}			Monetary Targets Missed (percent)
		T	T+1	T+3	
Pegged Exchange Rates	12	0.3	0.4	-0.2	11
Inflation Targeting Regime ^{2/}	7	0.0	-0.5	0.8	26
Other Monetary Regimes	13	2.1	-2.0	4.8	27
Earlier Programs	11	1.5	13.6	4.7	40

^{1/} Program launch at time (T).
^{2/} Armenia, Georgia, Hungary, Iceland, Moldova, Romania, and Serbia.

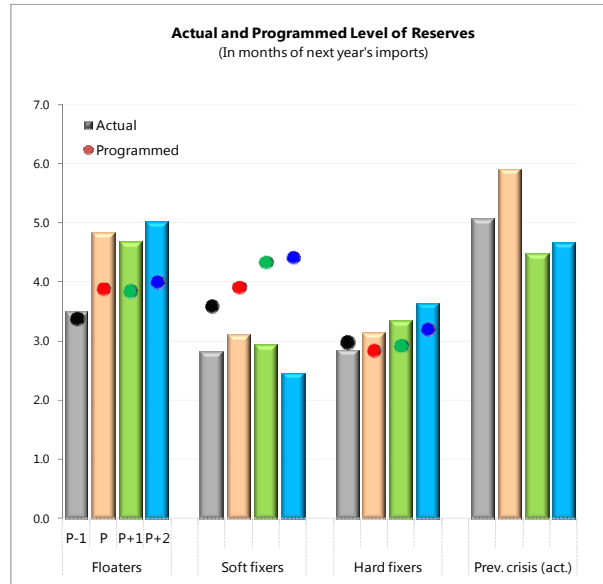
29. **Exchange rate stability was achieved through a combination of monetary tightening and currency intervention.** Several programs saw sizeable increases in real interest rates to stem capital outflows, most notably in floating rate regimes experiencing significant real depreciation pressures (Figure 16). As global liquidity conditions eased, floating rate regimes often benefited from larger than expected capital inflows: in these cases, intervention to moderate currency appreciation led to larger reserve accumulation than planned (Figure 17). By contrast, programs featuring soft pegs consistently fell short of program goals for reserve cover, suggesting less success in attracting capital inflows and more prolonged exchange market intervention to support the currency. The sustained shortfall in reserve cover in these latter cases suggests that intervention was partly sterilized, limiting the associated monetary tightening.

Figure 16. Changes in Real Interest Rates and Real Effective Exchange Rates



Sources: IMF Staff estimates.

Figure 17. Actual and Programmed Level of Reserves

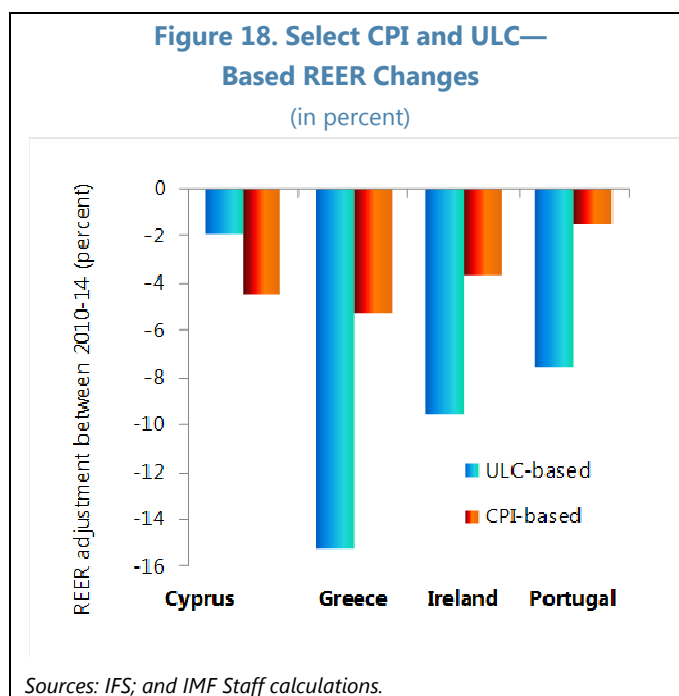


E. Outcomes

30. **The relative rigidity in exchange rates led programs to rely on domestic price adjustment to restore competitiveness. But “internal devaluation” proved very hard to achieve.** This experience is in line with historical experience that internal devaluation is rarely achieved, and then typically in the context of supportive trends in partner country growth and inflation, favorable relative movements in the anchor currency, and flexible domestic markets (Box 2). The recent program cases achieved a real effective exchange rate depreciation of just 12 percent over the program period compared with an average of 48 percent in earlier programs. In recent program cases, real effective depreciation during the program period averaged only 7 percent for countries that maintained exchange rate pegs in a currency union or relative to an external anchor currency and 20 percent for those with more flexible exchange rate arrangements.¹⁶

¹⁶ A peg relative to an external anchor currency is interpreted as a depreciation of less than 10 percent over the program period.

31. **In practice, only limited progress was made in improving competitiveness.** Labor market reforms were attained ahead of product market reforms, with the benefits of lower labor costs for competitiveness being, therefore, blunted by limited adjustment in producer prices and supply response because of barriers to new entry. In Euro Area programs, for example, a reduction in wage costs relative to trading partners was reflected in a depreciation of ULC-based real exchange rates, but the improvement in price competitiveness was more modest as evidenced by only small depreciations in CPI-based real effective exchange rates (Figure 18).



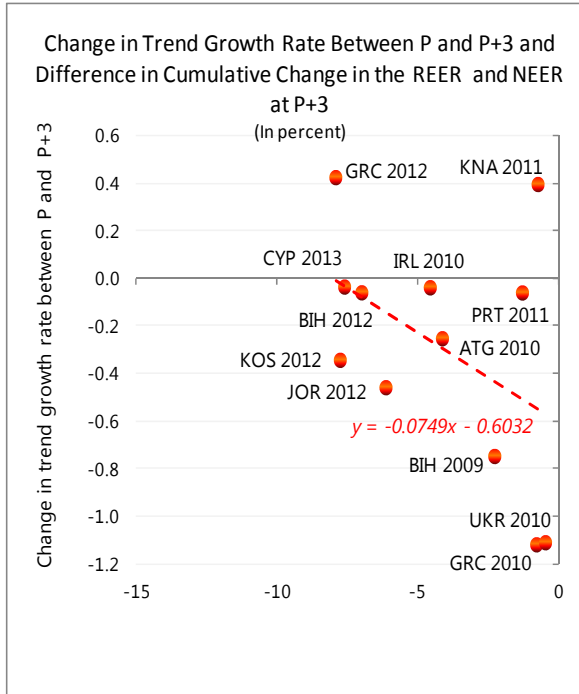
32. **While internal devaluations in recent programs achieved only modest real exchange rate adjustment, where they did do so there is some evidence of a nascent growth impact.**

While trend growth generally declined during recent programs and fell short of end-program projections, the decline and shortfall were, on average, smaller for the countries that made more progress toward internal devaluation. This suggests that where trend growth fell short of expectations it owed in part to internal devaluation not being achieved (Figures 19 and 20). It is possible, therefore, that sustained pursuit of an internal devaluation strategy over periods longer than the typical program period could deliver growth dividends, provided that financing is available to accommodate the slower pace of adjustment.

33. **Capital flow management measures (CFMs) on capital outflows were imposed in response to crisis conditions in Iceland (2008) and Cyprus (2013).**¹⁷ The experience with CFMs both informed and was informed by the development of the Fund's institutional view on the liberalization and management of capital flows. The CFMs were put in place by the member before the start of the programs to help stem capital outflows when crisis was imminent, with a view to being eliminated as conditions stabilized. In Cyprus, a roadmap was adopted for the relaxation of restrictions on cross border flows with steps that would depend on progress in rebuilding domestic financial intermediation by restructuring the banking sector and restoring depositor confidence and bank liquidity. In the event, CFMs were eventually removed with little impact on markets and the banking sector. In Iceland, unwinding CFMs proved more difficult than anticipated owing to the size and complexity of the problem, and the liberalization strategy had to be updated successively over the course of the program.

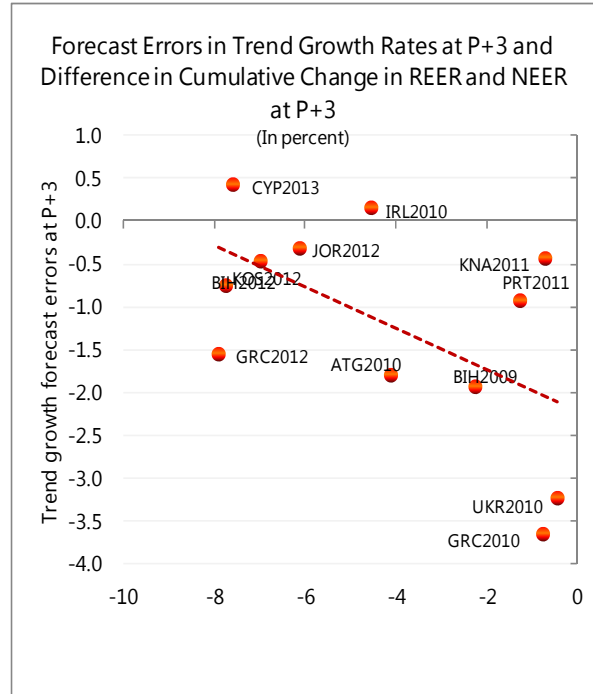
¹⁷ Reserve draw-downs also met market demand in a few other cases (Bosnia and Herzegovina, Moldova).

Figure 19. Internal Devaluation and Trend Growth



Sources: IMF Staff estimates.

Figure 20. Internal Devaluation and Trend Growth Forecast Errors



Box 2. Promoting Internal Devaluation

Historical experience suggests that few countries have achieved a significant depreciation of the real exchange rate without a nominal depreciation. Indeed, since the 1990s, there have been only 16 episodes of emerging markets with fixed exchange rates that have achieved CPI-based real effective depreciations exceeding 15 percent. In two cases, this was achieved through domestic deflation (Antigua and Vietnam), with gains in other cases reflecting either higher inflation in partner countries or fortuitous depreciation of the peg currency, so that the national currency was able to depreciate in nominal effective terms without exiting the peg.

Historical experience indicates a number of factors that seem critical for achieving internal devaluation. Where current account imbalances were initially small and exports were already large in relation to GDP, the country was better placed to achieve internal devaluation with less negative output consequences. A flexible domestic economy is also helpful, particularly labor markets; moreover, relative prices are easier to adjust when global growth and partner inflation are higher. Internal devaluation has also been more successful when countries have small debt stocks and substantial policy space (especially fiscal). In more typical cases, internal devaluation may only be achievable slowly, requiring sustained high levels of program ownership and implementation capacity as well as access to large and continued financing.

Latvia succeeded in achieving a large reduction in unit labor costs and restoration of output. Unit labor costs fell by 25 percent in 1 year, while the CPI-based real effective exchange rate fell only modestly. The resulting large increase in profits in the tradable sector generated a significant supply response as new firms entered. Output had contracted substantially at first (24 percent peak to trough), but recovered subsequently thanks to stronger exports. Notable contributory factors included the authorities' strong commitment to achieve the adjustment even if the costs were relatively high, a substantial rise in labor productivity, and, as a small open economy with flexible product and labor markets, the ability of the tradable sector to generate a rapid supply response (Blanchard, Griffiths, and Gruss, 2013).

Internal devaluation through labor and product markets reforms was a key objective of Euro Area programs. Greece's program (2010 and 2012) aimed to do so through a series of labor market measures, such as cutting nominal general government wages and benefits, reducing the minimum wage, and reforming collective bargaining, as well as broader measures such as state enterprise reform and divestment, cutting red-tape, and lowering barriers to entry to promote domestic competition. The Portuguese program was initially anchored on internal fiscal devaluation, achieved by rationalizing the wage bill. Other structural reforms included liberalization of the non-tradable sector and labor reform. Competitiveness was also an issue for Ireland at the outset, but high price and wage flexibility helped the goods and labor markets adjust relatively quickly.

FISCAL ADJUSTMENT

Fiscal consolidation helped support external adjustment, responded to financing constraints, and was necessary to support goals for reducing debt-GDP ratios over the medium term. Fiscal deficits were generally reduced in line with program objectives. In some programs with large fiscal consolidations, the negative impact on output in the short term was, however, larger than anticipated and combined with other factors to weigh down output. The cumulative effect was to raise debt-GDP ratios by more than expected in the short term. Where the near-term impact on output of large fiscal consolidation is likely to be large and protracted with consequences for program sustainability, it is desirable to examine the scope for slower fiscal consolidation—requiring additional financing—and to restructure the debt if it is not deemed sustainable with high probability.

A. Background and Fiscal Objectives

34. **Many program countries were characterized by high levels of public debt.**¹⁸ In some cases, high debt reflected large borrowing in the period leading up to the crisis (Greece 2010), in some it reflected the costs of financial sector interventions (Ireland), and in others it reflected large cyclical deficits that emerged during the crisis and prior to the program (Cyprus, Greece 2012, Ireland, Jordan). Programs typically sought to reduce fiscal deficits, both to ease short-term fiscal and external financing pressures and to put public finances onto a sounder medium-term footing. In order to help reduce high public debt-GDP ratios, some programs targeted primary fiscal surpluses. One in five programs supported public debt restructuring where indebtedness had risen to a point that could not realistically be addressed by fiscal adjustment alone.

35. **In general, program policies sought to balance the benefits of stronger fiscal positions against the impact of consolidation on output.** Programs with larger initial cyclically-adjusted primary deficits and stronger activity as measured by the output gap sought greater fiscal consolidation (Figures 21 and 22).¹⁹ On average, programs sought to strengthen primary fiscal balances by about 3 percentage points of GDP, in total, over a three-year period. Programmed fiscal adjustment was larger in the Euro Area (averaging 5½ percentage points of GDP of primary balance adjustment) and smaller in MENA programs (about 2½ percentage points of GDP).

¹⁸ This paper uses the term “high debt” in a relative sense, as countries’ ability to sustain a given debt level can vary based on a range of factors. For instance, the analysis in Annex I focuses on non-restructuring cases with the 10 highest initial debt-GDP ratios. The average debt ratio in these cases was 90 percent, encompassing a range from 53 percent (Maldives, 2009) to 145 percent (Greece, 2010).

¹⁹ The cyclically adjusted primary balance (CAPB) is calculated by removing the cyclical component of revenue from the primary balance and dividing it by potential GDP.

Figure 21. Programmed Adjustment Relative to Fiscal Imbalance

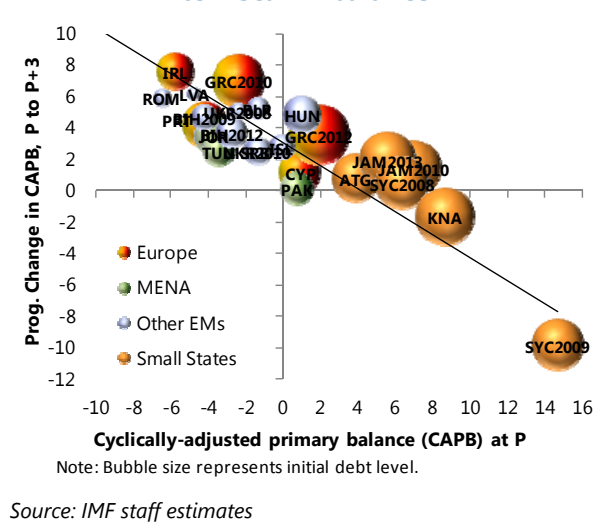
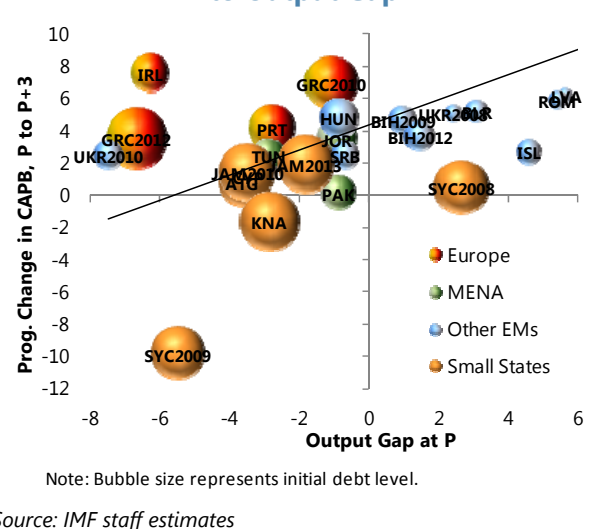
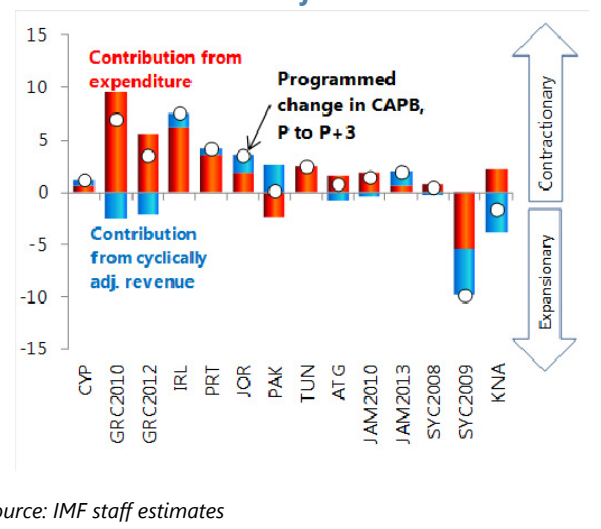


Figure 22. Programmed Adjustment Relative to Output Gap



36. **Programs typically sought fiscal consolidations through expenditure cuts** (Figure 23). Many program countries faced very high and seemingly unsustainable public spending ratios, exceeding 50 percent of GDP in most Euro Area program countries. Much of this spending was related to energy subsidies (MENA), wages (Euro Area, MENA, and small states), and social benefits, including pensions (Euro Area). Many program countries also had weaknesses on the revenue side, such as in tax administration, that made a heavy reliance on higher revenue unlikely.²⁰ Program design was

Figure 23. Composition of Program Fiscal Adjustment



²⁰ A number of programs tried to address weaknesses in revenue collection by intensifying tax policy and administration reforms as part of structural conditionality. A resurgence of revenue conditionality after 2008 coincided with expanded IMF technical assistance (see Crivelli and Gupta, 2015). During 2009–13, revenue collection increased more in program countries with revenue conditionality than in countries without revenue conditionality or than in countries without Fund arrangements.

generally mindful of protecting social safety nets. A quarter of programs had the explicit objective of poverty reduction²¹, and around half of the programs included some form of social protection in their conditionality.²²

B. Fiscal Outcomes

37. **Fiscal consolidation outcomes were mixed.** Primary fiscal balances strengthened by an average of 1¾ percent of GDP during the 3 years after program approval, relative to program goals of about 3 percentage points over three years. Fiscal outcomes were closest to program objectives in the Euro Area and MENA, but fell short in other regions (Figure 24). In the Euro Area, where program fiscal balance targets were met, it was typically in the context of disappointingly weak economic activity, implying a much larger than programmed cyclically adjusted fiscal correction, while in small states original program targets were missed due to expenditure overruns. Except for small states, program fiscal consolidation was larger in the crisis program cases, on average, than in non-program countries, where fiscal deficits typically significantly exceeded projected levels. Capital expenditure in relation to GDP rose in the Euro Area cases but the experience elsewhere was more mixed. Programs were generally effective in protecting social benefit spending, both in relation to total expenditure and relative to pre-program periods, and in contrast to the experience in non-program countries.²³ Social spending as a share of total expenditure increased across regions. Social spending was broadly preserved as a percent of GDP although with some variation across regions, declining slightly in the Euro Area programs and increasing slightly in MENA and the small states.²⁴

38. **In some cases, the contractionary effect of fiscal consolidation on output may have contributed along with other factors to raising debt-GDP ratios by more than expected in the short run.** Fiscal consolidation was necessary to reduce debt-GDP ratios over the medium term. While progress in strengthening fiscal balances reduced the pace of new borrowing, it did not reduce nominal debt levels. Moreover, some countries implementing large fiscal consolidations experienced sizeable declines in activity reflecting larger-than-anticipated fiscal multipliers as well as reversals of output from artificially inflated levels and weaker activity associated with weak global demand, political uncertainty and incomplete reform implementation (IMF, 2013b). As a result, despite fiscal adjustment, debt-GDP ratios rose more than expected over the program period in

²¹ Armenia, Dominican Republic, Georgia, Jamaica 2013, Maldives, Moldova, and Pakistan.

²² The latter took the form of indicative floors on social expenditure (Jamaica (2013), Moldova, and Tunisia) and structural benchmarks on strengthening social safety nets (Armenia, Latvia, Pakistan, and Tunisia), increasing the coverage of social assistance (Dominican Republic and Moldova), and targeted transfers to protect the poor from higher oil and electricity prices (Jordan and Maldives). In a few cases, social assistance was excluded from the targeted ceiling on current expenditures (Romania). In other cases, program recommendations included addressing large or inefficient social benefit schemes but accompanied by conditionality to strengthen social safety nets (Greece, 2012) or to improve targeting and protect the most vulnerable (Cyprus, Mongolia, Seychelles, and St. Kitts and Nevis).

²³ See Clements, Gupta, and Nozaki, 2013.

²⁴ Structural benchmarks on social protection were met in most cases, although the performance on indicative targets was more mixed.

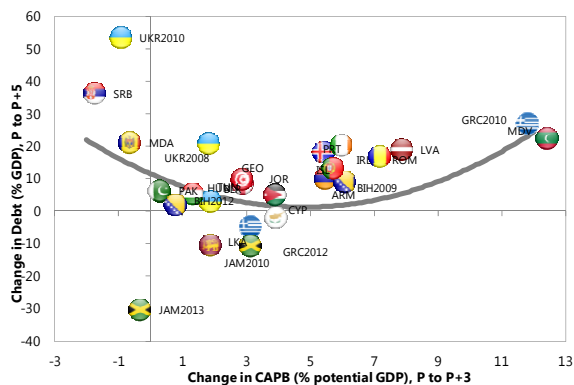
some countries (Armenia, Bosnia and Herzegovina (2009), Greece (2010), Iceland, Ireland, Latvia, Maldives, Portugal, and Romania; Figures 25 and 26, Annex I). This trend was exacerbated in some countries by bank recapitalization costs, which amounted to 19 percent of GDP on average, or 60 percent of the short-term rise in the debt-GDP ratio, and the reclassification of the debt of public enterprises that were previously outside of the general government perimeter (Portugal).

Figure 24. Fiscal Balance Targets and Outcomes



Source: IMF staff estimates

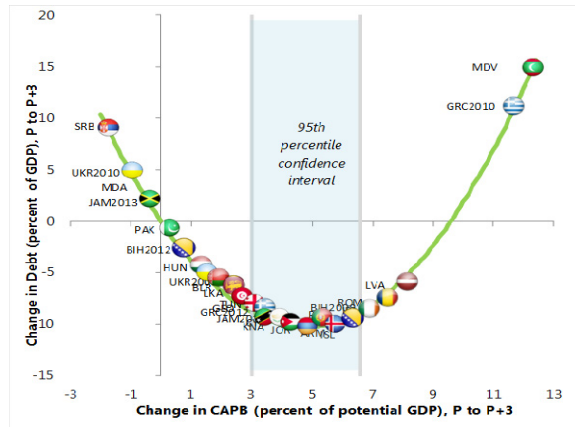
Figure 25. Changes in Debt at Given Levels of Fiscal Adjustment ^{1/}



Source: IMF Staff estimates.

^{1/} Country flags show actual data on the changes in CAPB and debt/GDP. The curve shows fitted values for debt/GDP changes based on the regression analysis in Annex I and contributions from CAPB and other explanatory variables.

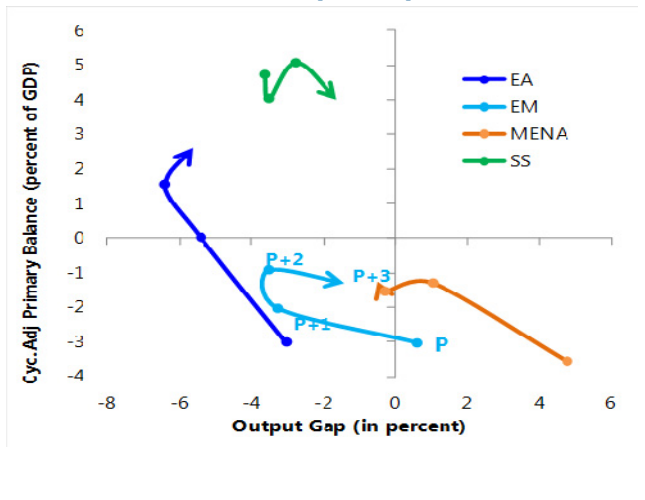
Figure 26. Impact of Fiscal Consolidation on Debt ^{1/}



^{1/} The curve shows the calculated impact of fiscal adjustment on the debt/GDP ratio based on the regression analysis in Annex I. The country flags reflect the calculated debt/GDP impact for each country, given their CAPB changes.

39. **As the contractionary effect of fiscal consolidation on output became evident, many programs slowed the pace of consolidation** (Armenia, Greece, Hungary, Latvia, Portugal, and Ukraine; see Figure 27). In small states, strong initial primary fiscal positions (mainly from pre-crisis programs) allowed fiscal policy to play a somewhat countercyclical role, financed by earlier than expected market access, interest savings from debt operations, and concessional financing provided in successor arrangements.

Figure 27. Cyclically Adjusted Primary Balance and Output Gap

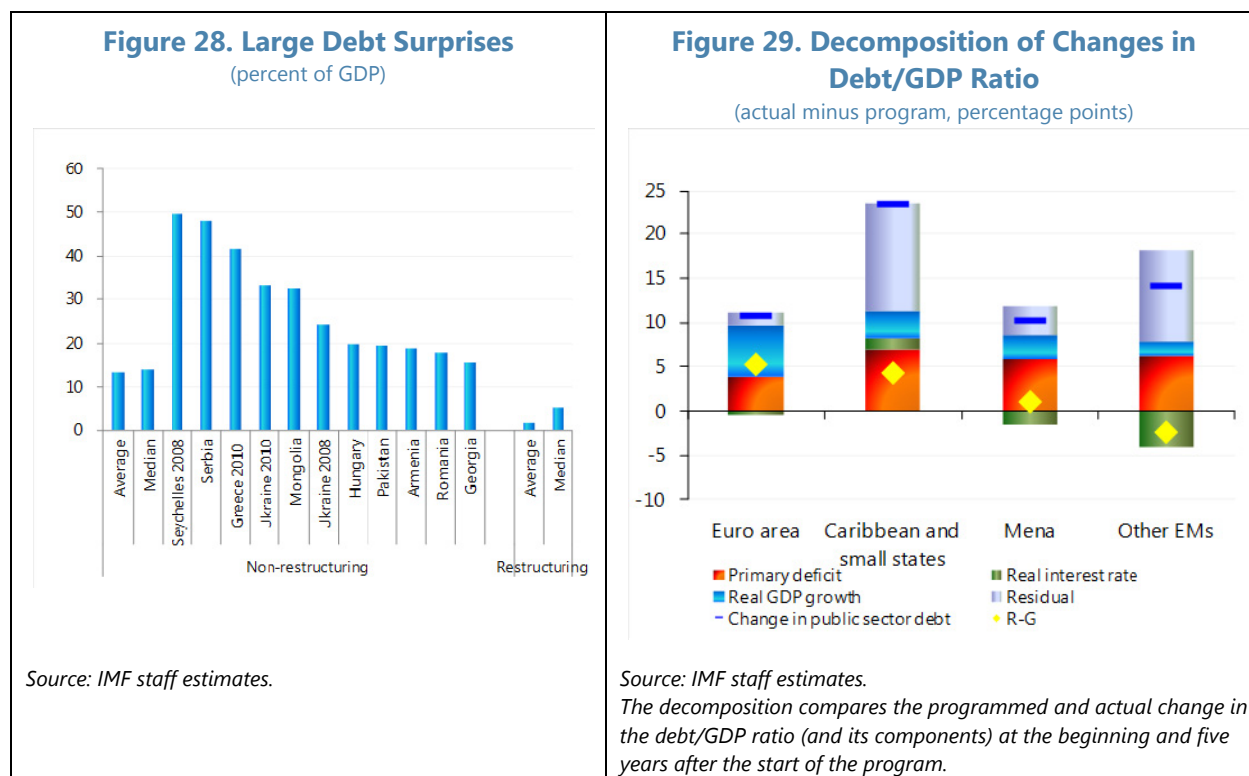


C. Debt Sustainability

40. **Debt reduction measured by public debt-GDP ratios fell short of medium-term program expectations in three-quarters of programs** (Figure 28). The shortfall reflected fiscal adjustment that was somewhat smaller than programmed, as well as disappointing growth outcomes in many cases. Other contributory factors included upward revisions to baseline primary deficits, currency depreciations in a few cases (Belarus, Jamaica (2010), Pakistan, Seychelles (2008), and Ukraine (2010)), and lower-than-expected asset sales and higher bank recapitalization costs (Greece) (Figure 29).²⁵ Debt surprises were particularly large in non-restructuring cases, notably for several countries that needed successor arrangements (Greece (2010), Mongolia, Serbia, Seychelles (2008), and Ukraine (2008, 2010)). In these cases, public debt exceeded medium-term program projections by more than 20 percent of GDP. Among Euro Area programs, debt-GDP ratios exceeded targeted levels for Greece (2010) and Portugal (2011).²⁶

²⁵ In the Greece program, bank recapitalization costs reflected bank-sovereign linkages that were not anticipated in program projections (Figure 38).

²⁶ This conclusion holds even if account is taken of the favorable terms such as maturity extensions and coupon reductions provided by the European institutions to these countries.

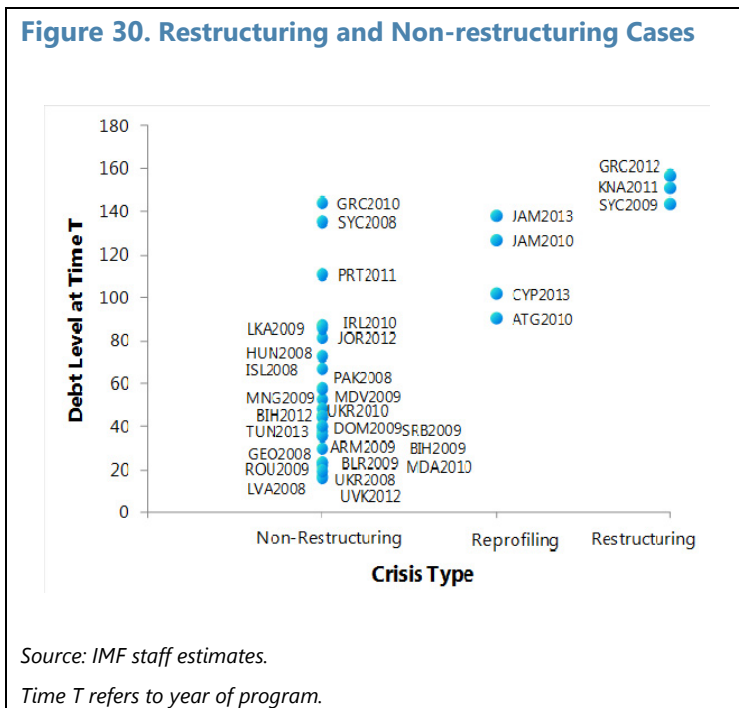


41. **About one case in five featured sovereign debt restructuring.** Of 32 programs, seven included either a debt reprofiling through maturity extension with no face value reduction (Antigua and Barbuda (2010), Cyprus (2013), and Jamaica (2010 and 2013)) or a debt operation with a face value debt reduction (Greece (2012), Seychelles (2010), and St. Kitts and Nevis) (Box 4). These cases represented the majority of program cases in which initial public debt was most elevated. While there is no specific threshold for debt restructuring, featured countries had debt levels exceeding 90 percent of GDP (Figure 30). In three other advanced economy cases, relatively high debt ratios were assessed to be sustainable with a high degree of probability (Iceland, 2008), or concerns about systemic spillovers precluded the consideration of debt restructuring options (Ireland and Portugal).²⁷

²⁷ In Iceland, confidence around debt sustainability was anchored in the authorities' intention not to take on additional liabilities from the banking system, resolute fiscal adjustment in the medium term supported by the Fund-supported program, and the potential for asset recoveries to finance claims on foreign deposits. In Portugal, it was difficult to state categorically there was a high probability that debt was sustainable over the medium term. However, given concerns about systemic international spillovers, the systemic exemption was invoked to justify exceptional access.

42. **Among countries with high public debt levels, disappointments in growth and public debt outcomes were smaller in cases that included debt restructuring.** Debt-GDP ratios were, on average, higher-than-programmed in the non-restructuring cases, while growth was lower (Box 3). By comparison, restructuring cases achieved more substantial growth turnarounds and declining debt-GDP ratios, broadly in line with initial program expectations. It should be noted that some of the non-restructuring group countries had lower debt ratios than the restructuring group ahead of their respective programs so that debt reduction was less urgent, and they also had stronger pre-program growth so that the scope for improvement during the program period was more limited.²⁸

Figure 30. Restructuring and Non-restructuring Cases



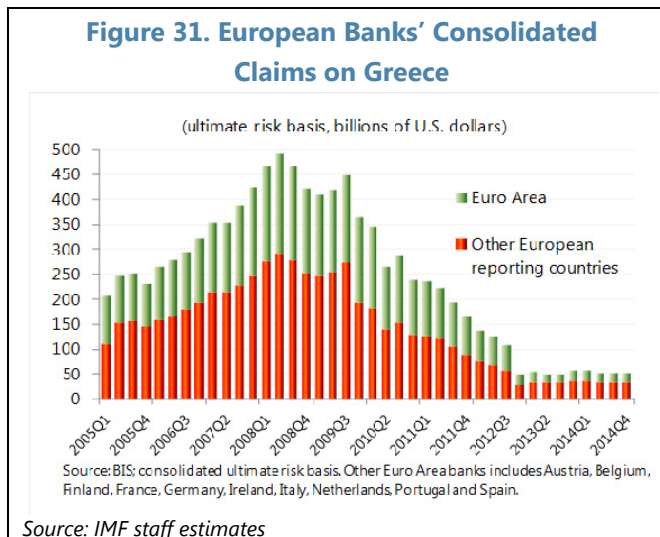
43. **Market access, as signaled by sovereign ratings and bond spreads, took time to recover.** Sovereign ratings deteriorated in all cases during the first program year, suggesting that perceptions of debt sustainability were slow to improve. Ratings improved subsequently in most program countries, often reflecting external developments. Sovereign bond spreads in Euro Area program cases remained elevated until mid-2012, however, before they declined helped by decisive policy actions by the ECB. Narrowing spreads contributed favorably to debt dynamics in most countries, although typically not by enough to be offset by the adverse impact of growth disappointments.

²⁸ See IMF, June 2013 for further discussion of the costs and benefits of debt restructuring.

44. Concerns about contagion were a critical consideration in decisions about debt restructuring in the Euro Area programs.

For Greece (2010), the Fund could not assess that debt was sustainable with high probability, an assessment normally necessary for exceptional access to Fund resources. However, the risk of systemic international spillovers, given the lack of firewalls at the time to insulate other members of the Euro Area, provided a justification for not requiring an upfront debt reduction operation as a condition for a Fund

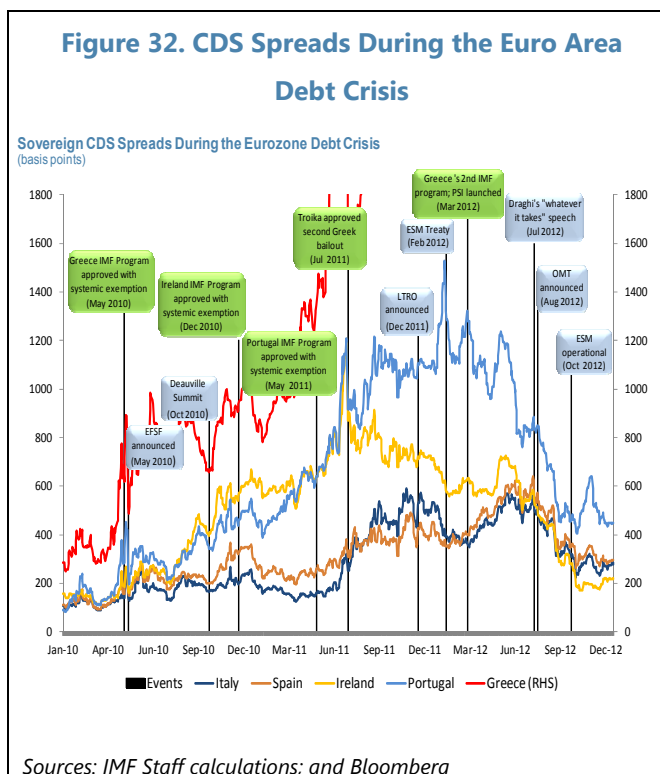
arrangement with exceptional access (Figure 31 shows European banks' exposure to Greece at the time). A "systemic exemption" clause was added to the exceptional access policy and was subsequently invoked for Ireland (2010), Portugal (2011), and again in Greece's 2012 successor arrangement.²⁹ In programs outside the Euro area, contagion was not seen as a sufficient concern to warrant using this clause.



45. The systemic exemption proved critical in avoiding defaults on private claims at the outset of the crisis and provided breathing space to build firewalls. But it could not on its own prevent contagion.

The counterfactual consequences of an earlier debt restructuring are unknown, and some have argued they could have included pushing the global financial crisis into a deeper, more acute stage. Progress in building firewalls was also critical in allowing the ECB to move against contagion risks within the Euro Area. However, by holding debt restructuring in abeyance the systemic exemption did not by itself foster resumed market confidence. There was a continuing rise in CDS spreads following Euro Area program announcements

(Figure 32). Only after two years of heightened uncertainty across the Euro Area did market



²⁹ For the list of exceptional access criteria, see IMF, June 2014 (Box 1).

confidence begin to return, largely in response to the ECB's commitment to do "whatever it takes" to save the Euro. With little evidence that the systemic exemption approach, taken alone, helped prevent contagion, the Fund is considering proposals to reform its exceptional access lending framework, including the systemic exemption, and increase the general flexibility to deal with cases where debt is deemed sustainable but not with high probability.³⁰

46. **Overall, the experience reveals the problems for Fund-supported programs when debt sustainability is not secured upfront.** Debt restructuring, when it came, was often too little too late.³¹ By the time private sector involvement (PSI) was considered in Greece in 2012, the implied haircuts for remaining creditors were large by the standards of other pre-default cases even though they were insufficient to restore debt sustainability with high probability.³² In Jamaica, debt restructuring options were constrained by financial stability considerations, and despite very high initial debt levels, the 2010 and 2013 debt exchanges eschewed principal haircuts, limiting the NPV debt reduction to 15 percent. In Seychelles (2008) and St. Kitts and Nevis (2011), debt restructurings involved sizable haircuts, but in both cases the restructurings were undertaken several years after staff first assessed debt to be unsustainable.

³⁰ See IMF (2015e).

³¹ See IMF (2013).

³² Accordingly, and given the still-high perceived risks of international systemic spillovers at that time, exceptional access in the March 2012 program was justified using the systemic exemption.

Box 3. Restructuring vs. Non-Restructuring Programs

Public debt-GDP ratios and growth outcomes in restructuring cases (which all had high initial public debt-GDP ratios) are compared with those in non-restructuring cases where initial debt was high.

- *Restructuring sample:* Seven programs included debt restructurings, either with no face value reductions (i.e. debt reprofiling) or with face value reduction (Table 1).
- *Non-restructuring sample:* top ten initial public debt/GDP cases, namely, Greece 2010 (145 percent of GDP), Seychelles 2008 (136 percent), Portugal (111 percent), Ireland (87 percent), Sri Lanka (86 percent), Jordan (82 percent), Hungary (73 percent), Iceland (67 percent), Pakistan (58 percent), and Maldives (53 percent).

Figures 1 and 2 show that relative to non-restructuring cases, the restructuring cases observed better debt-GDP dynamics (debt was put on a declining path by year 4 after the program) and growth turnarounds were stronger. Moreover, outcomes mirrored program expectations more closely in restructuring cases than in non-restructuring cases, where growth and debt both disappointed.

Box 3. Table 1. Restructuring Cases

	Preemptive or Post-Default?	Default Date	Date of Exchange	Program Date Approval	Total Duration (Months)	Debt Exchanged in US\$ bn 1/	Cut in Face Value 2/	Outstanding Instruments Exchanged	New Instruments
CPRS Sample									
Antigua and Barbuda (Ext. debt)	Preemptive		Sep-10	Jun-10	1	0.1	0.0%	Paris Club agreement on bilateral debt outstanding	Deferred repayment of principal
Cyprus (Dom. Bonds)	Preemptive		Jul-13	May-13	1	1.3	0.0%	Sovereign bonds (primarily domestically held)	Same coupon, and extended maturities
Greece (Dom./Ext. Bonds)	Preemptive		Mar-12	Mar-12	8	271.2	53.5%	All dom. and ext. bonds, except ECB and CB holdings	20 Bonds, 2 Notes, GDP-linked security
Jamaica (Dom. Bonds)	Preemptive		Feb-10	Feb-10	1	7.8	0.0%	Around 350 US\$ and J\$ denominated dom. bonds	25 US\$ and J\$ denominated dom. bonds
Jamaica (Dom. Bonds)	Preemptive		Feb-13	May-13	1	8.9	0.0%	28 US\$ and J\$ denominated dom. bonds	26 US\$ and J\$ denominated dom. bonds
Seychelles (Ext. Bonds/Loans)	Post-Default	Jul-08	Feb-10	Nov-08	11	0.3	50.0%	1 Ext. Bonds, 2 Ext. Loans, Notes	1 Bond, Par notes
St. Kitts and Nevis (Bonds/Loans)	Preemptive		Apr-12	Jul-11	10	0.1	31.8%	11 Ext. Bonds, 2 Dom. Bonds, 4 Loans	1 US\$ Bond and 1 EC\$ Bond

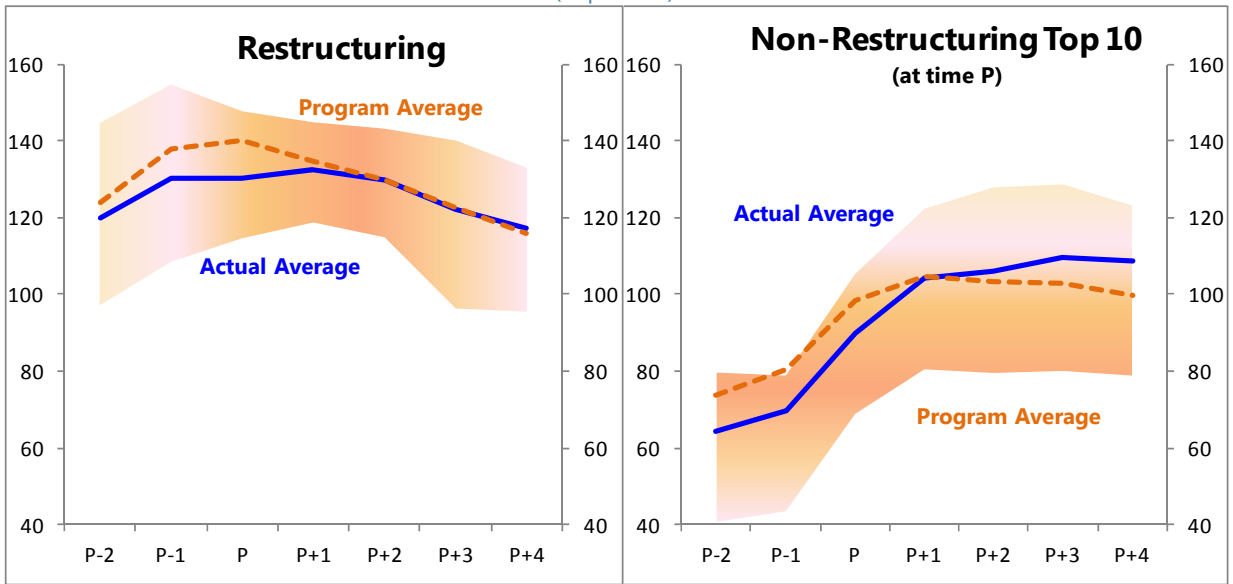
Sources: Das et al (2012), Sturzenegger and Zettelmeyer (2006), IMF staff reports, and authorities' websites.

1/ Total eligible debt to be restructured in the debt operation.

2/ Figures do not include past due interest.

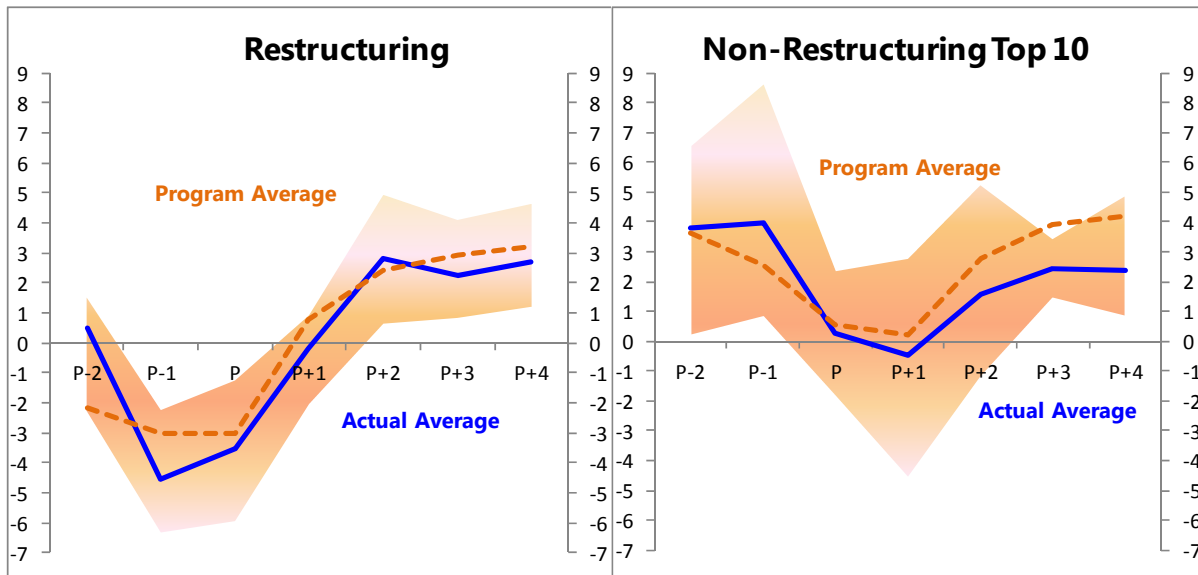
Box 3. Figure 1. Debt-to-GDP

(in percent)



Box 3. Figure 2. Real GDP Growth

(in percent)



Source: IMF staff calculations

Note: The 25th and 75th percentile ranges correspond to the actual DSAs

STRUCTURAL REFORMS

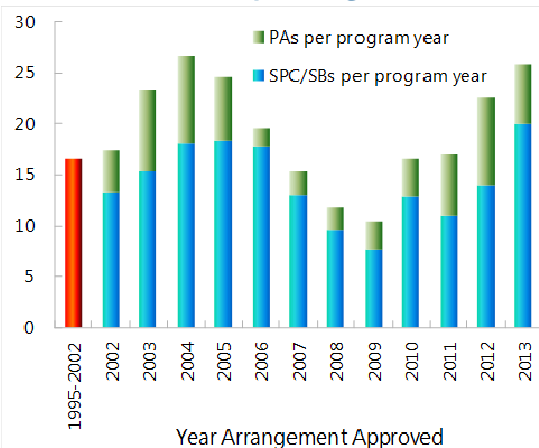
Structural conditionality was mainly focused on core areas of the Fund's responsibilities, and was generally important to achieve key program goals. An extensive reform agenda was motivated by the need to address underlying macroeconomic imbalances, including through internal devaluation, and to boost long-term growth. Implementation rates of structural conditionality were generally high, although some programs exhibited reform fatigue. The growth payoffs from structural reforms in the short term were likely modest, and less than programs may have envisaged, suggesting a need for program design to be prudent about expectations in this regard. An analytical framework for assessing the prospective payoffs from structural reforms could also help inform expectations. Where reforms are macro-critical but outside the Fund's traditional areas of responsibility, further consideration is needed on how to effectively leverage expertise in other institutions. In cases where ownership of structural reforms is incomplete, offsetting adjustments in other policies (debt reduction, exchange rate depreciation) may be needed to help address underlying imbalances.

A. Program Goals

47. **Structural reforms featured importantly in the recent Fund-supported programs.**

The average annual number of structural reform conditions (prior actions, structural performance criteria, and structural benchmarks) per program year rose throughout the global crisis (Figure 33).³³ By 2013, the average was close to the previous peak in 2003–05. The number of structural reform conditions varied across individual countries and program groupings (Figure 34). The 2011 Conditionality Review noted an increase in the number and depth of structural conditions in Euro Area programs (Greece), and high levels of structural conditionality were also present in some programs outside the Euro Area (Bosnia and Herzegovina, Jamaica, Tunisia, and Ukraine).³⁴

Figure 33. Number of Structural Prior Actions, Structural Performance Criteria, and Benchmarks per Program Year

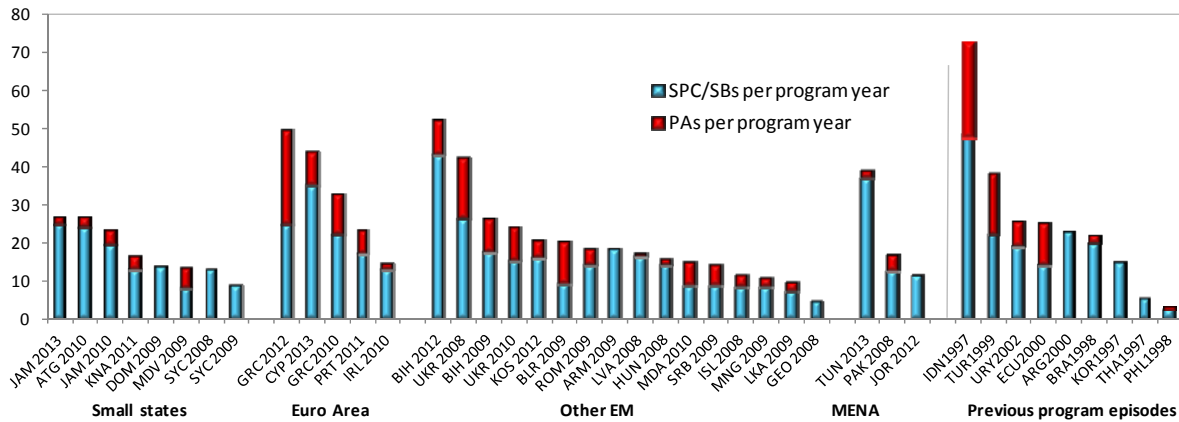


Source: IMF staff calculations

³³ The use of structural performance criteria under Fund arrangements was abolished in 2009.

³⁴ See IMF (2012).

Figure 34. Number of Prior Actions, Structural Performance Criteria, and Structural Benchmarks per Program Year: By Country^{1/}



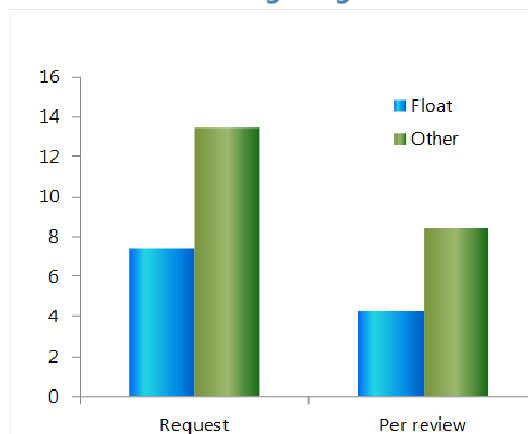
Source: IMF Staff calculations.

1/ Total number of conditions set across all completed reviews divided by length of time between program start date and the last review completed as of Dec 2014. Continuous structural benchmarks are counted separately for each review.

48. The high number of structural reform conditions relative to earlier programs appears to have been warranted in light of the nature of the challenge facing the recent crisis cases.³⁵

Labor and product market reforms were needed to foster price and wage flexibility in order to restore competitiveness through internal devaluation. Supply-side conditions were, accordingly, more numerous in countries with weaker initial structural conditions and more rigid exchange rates (Figure 35).³⁶ In MENA countries, structural reforms tried to address vulnerabilities highlighted during the Arab Spring, especially those linked to inequality, youth unemployment, and social issues. Many programs with the highest structural conditionality were successor arrangements launched

Figure 35. Structural Conditionality by Foreign Exchange Regime



Source: IMF Staff calculations

³⁵ Under the Fund’s 2002 Conditionality Guidelines, program-related conditions should be (i) of critical importance to achieve program goals or to monitor program implementation; or (ii) necessary to implement specific provisions under the Articles of Agreement or policies under them.

³⁶ Supply-side conditions relate to private sector legal and regulatory reform; natural resource and agriculture; anti-corruption legislation; public enterprise pricing; privatization, public enterprise reform; price controls and market access; and labor markets, excluding public sector.

later in the crisis period (Bosnia and Herzegovina, 2012; Greece, 2012; and Ukraine, 2010). In these cases, high structural conditionality also reflected lessons from earlier programs and occurred alongside a general effort by the Fund to address issues relating to emerging global challenges facing the membership, such as potential growth, job creation, inequality and other social issues.³⁷

B. Outcomes

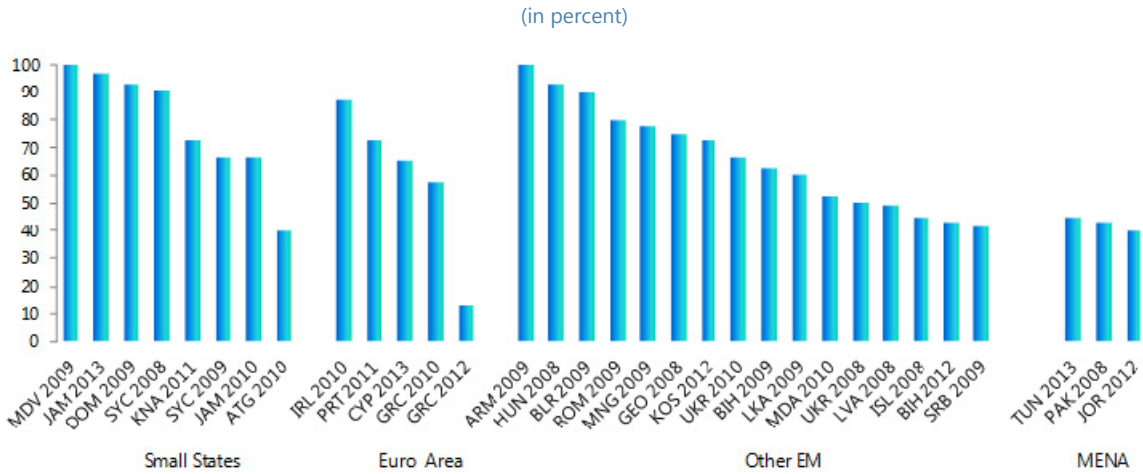
49. **Implementation of structural conditionality was generally strong.** On average, about 70 percent of structural benchmarks and performance criteria were met without delay (Figure 36). Implementation rates were highest in small states programs. They were lower in the later years of programs, and programs with the largest number of structural conditions, possibly pointing to reform fatigue in some cases (Figure 37). However, there were important exceptions. Some programs with high structural conditionality had very strong implementation rates (Jamaica, 2013), suggesting country ownership and implementation capacity played a critical role in program outcomes. Implementation rates were also generally lower for structural reforms in the financial sector, reflecting specific challenges discussed below.

50. **In general, structural conditionality focused on areas within the Fund's core responsibilities.**³⁸ The majority of structural conditionality related to the fiscal and the financial sectors (Figure 38). Fiscal reforms accounted for over half of all structural conditionality in recent crisis programs. Their focus reflected the particular issues facing countries: tax policy and revenue mobilization was most prominent in MENA countries and small states, public financial management in other emerging markets, and a range of issues in Euro Area programs (Figures 39 and 40). Conditionality in other areas mainly covered labor and product market reforms and was more prevalent in countries with rigid exchange rate regimes (Figure 41), including Euro Area programs (Greece, 2012; Portugal), as well as energy sector reform (Pakistan, 2008; Ukraine, 2008 and 2010). In cases where conditionality was applied in areas outside of the Fund's traditional areas of responsibility, implementation delays were about 20 percent longer, on average. The 2011 Conditionality Review underlined the importance of better scrutinizing the macro-criticality of structural reforms and justifying conditionality in program documents by identifying clear links to program goals, a message that remains relevant.

³⁷ See IMF (2013c), IMF (2015), and IMF (2015b).

³⁸ The 2011 Review of Conditionality (Background Paper 1: Content and Application of Conditionality; Appendix 1 Institutional Classification of Structural Conditionality) contained the following categorization: *core* reforms that relate to macroeconomic areas where the Fund has lead expertise, such as tax administration and central banking; *shared* areas of competency that include areas central to macroeconomic management, such as labor market and pension systems reform, where the Fund often joins other institutions in providing policy advice and capacity building support; and *non-core* areas that may be key to macroeconomic and program success, but where the Fund typically does not have recognized policy expertise, such as judicial reform, competition policy, decentralization, and energy sector reform. The present paper follows the same categorization in order to ensure comparability with the earlier analysis, and does not incorporate recent developments in the Fund's expertise and involvement in areas such as in judicial reform where the Fund has increasingly developed and shared its expertise.

Figure 36. Implementation of Structural Benchmarks and Structural Performance Criteria Without Delay



Sources: IMF staff calculation; and MONA.

Figure 37. Implementation of Structural Benchmarks and Structural Performance Criteria vs. Number of Conditions

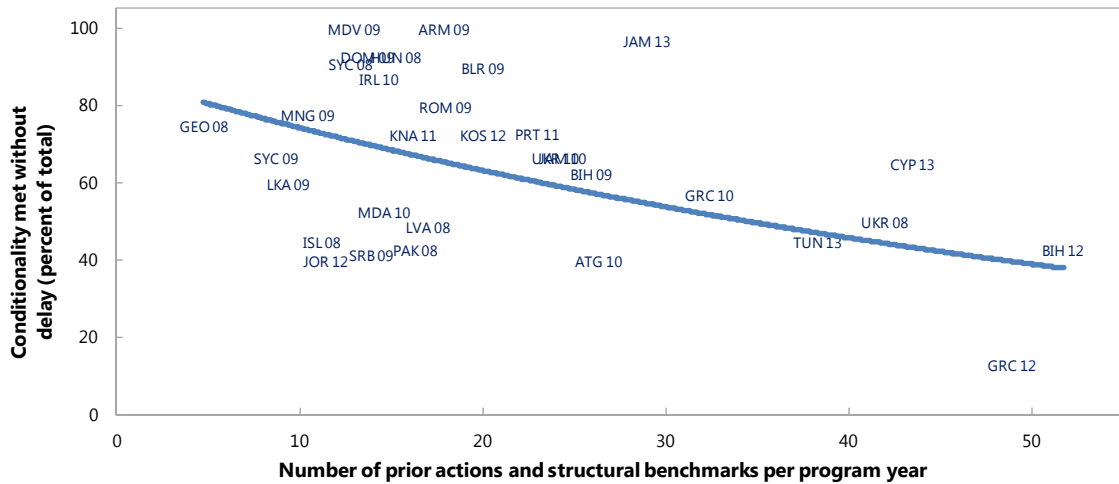


Figure 38. Prior Actions, Structural Benchmarks and Structural Performance Criteria by Area of Expertise

(in percent of total)

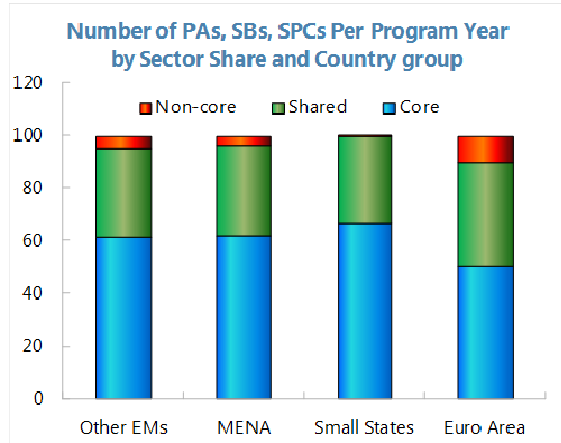


Figure 39. Composition of Fiscal Conditionality

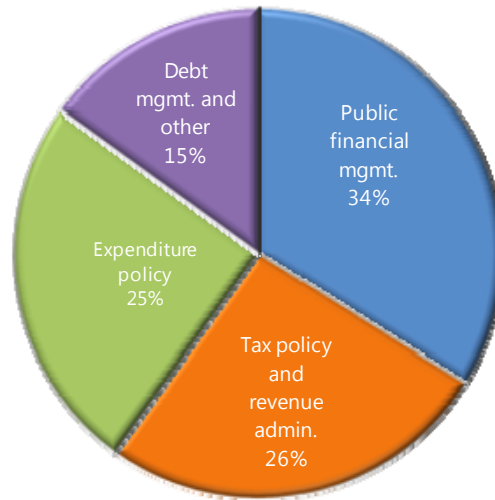
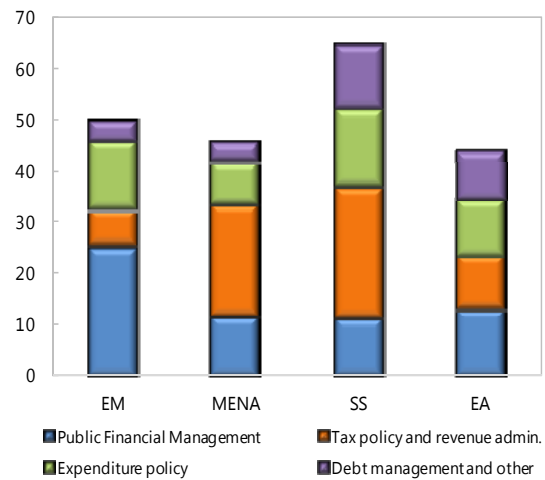


Figure 40. Fiscal Conditionality

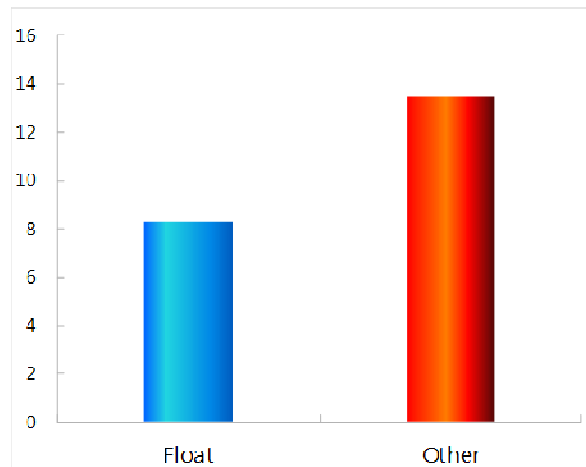
(in percent of total conditionality)



Sources: IMF staff estimates; and MONA.

Figure 41. Supply-side Conditionality

(in percent of total conditionality)



Source: IMF staff estimates

51. **Fund structural conditionality was sometimes accompanied by separate agreements with other official creditors.** In Euro Area programs, these agreements were reflected in a Memorandum of Understanding (MOU) between the member and Euro Area institutions as a basis for official financing commitments. The MOU included additional reforms that, together with the Fund's conditionality, may have increased the strain on the authorities' implementation capacity.

52. **The near-term growth dividend from supply-side structural reforms appears generally to have fallen short of expectations** (Annex II). While program documents do not isolate the growth payoff assumed to accrue specifically from structural reforms, programs that included the most supply-side structural conditionality also projected the largest increases in trend growth relative to historical averages (Dominican Republic, Greece, Jamaica (2010), and Portugal).³⁹ These reforms focused on labor and product markets and the business climate.⁴⁰ The expected medium- to long-term growth dividend from structural reforms assumed in the programs appears broadly in line with empirical evidence. But, for the short term, while the typical view in the literature is that supply side reforms have a very small, possibly even negative, impact on growth,⁴¹ in several programs a growth dividend was implicitly expected as early as the second program year. The disappointing growth performance in recent programs cannot, however, be pinned on disappointing structural reform dividends alone as it also reflects factors such as weak global conditions, fiscal consolidation, balance sheet stress, and shrinking bank credit.

ADDRESSING PRIVATE SECTOR BALANCE SHEET STRESS

Programs sought to maintain banks' liquidity and solvency, and tackle strained private sector balance sheets where these risked holding back the economic recovery. Progress was hampered by a lack of legal and institutional readiness and concerns about potential fiscal costs. Given these considerations, more rapid progress was probably not an option. That said, sustained and proactive steps can help build frameworks to avert the build-up of risks ahead of future crises. Priorities include early attention to legal frameworks and out-of-court settlement options, prudential measures to incentivize debt write-offs and restructuring, and the creation of markets or institutions to handle distressed debts. Steps to address balance sheet data gaps can also help identify vulnerabilities and transmission channels, and inform decisions on the merits of exchange rate depreciation as part of the adjustment process.

³⁹ Specifically, where supply side conditionality exceeded 15 percent of total structural conditionality, program projections for medium-term growth typically exceeded rates in the pre-crisis boom decade. For more than one half of such programs, the implied growth dividend was projected to be at least 1 percentage point. By contrast, for countries that featured limited or no supply side conditionality, only one-in-five countries programmed a comparable rise in medium-term growth performance.

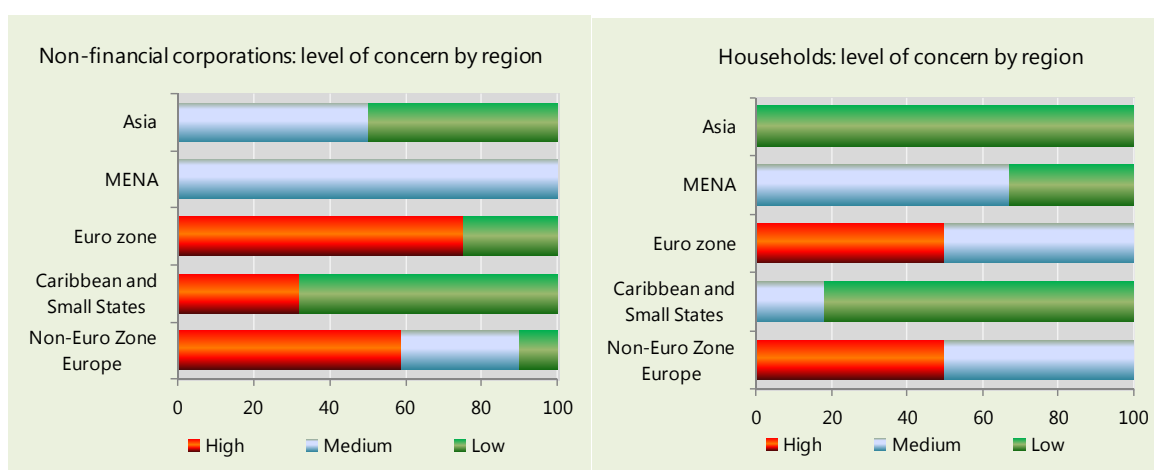
⁴⁰ For example, MENA programs sought to promote faster growth through reforms to electricity pricing mechanisms, as high electricity costs elevated the cost of capital for firms in all sectors and held back productivity.

⁴¹ See Bouis et al (2012), Bouis and Duval (2011), Dabla-Norris (2015).

A. Program Objectives for Balance Sheet Repair

53. **Private sector debt was a concern for many programs, most prominently in Europe** (Figure 42, and Annex III). High debt concerns were identified by Fund staff in the corporate and household sectors in several cases (Armenia, Cyprus, Georgia, Hungary, Iceland, Ireland, Latvia, Portugal, Romania, and Ukraine, as well as Jamaica and the Maldives). Household debt-GDP ratios (Cyprus, Greece, Ireland, Iceland, Jordan, Latvia, and Portugal) and non-financial corporate debt-GDP ratios (Cyprus, Iceland, Ireland, and Portugal) exceeded those in Korea and Thailand in the mid-1990s when the latter had high private debt amid credit booms.

Figure 42. Non-financial Corporates and Households Balance Sheets



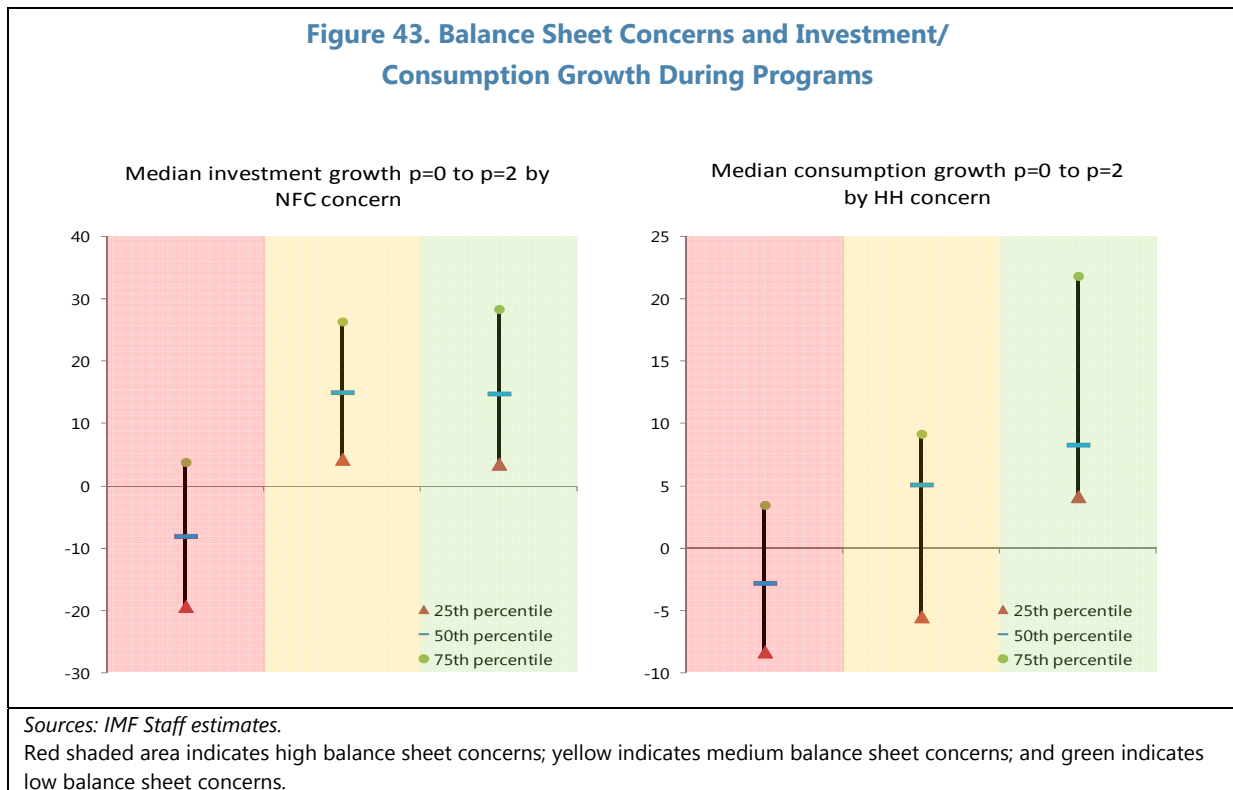
Source: IMF Staff estimates.

Red color indicates high balance sheet concerns; blue indicates medium balance sheet concerns; and green indicates low balance sheet concerns. See annex III for details.

54. **Excessive private indebtedness can have adverse consequences for domestic demand and economic activity.** Where debt service ratios are high in relation to disposable income, households and corporates can see their credit worthiness undercut, and tend to reduce consumption and investment to rebuild balance sheets.⁴² The recovery in activity was typically slower in cases where financial and non-financial private sector balance sheets were strained, particularly where banks faced high NPLs and limited capital and households and corporates faced elevated debt in relation to GDP (Figure 43). Furthermore, where borrowing is associated with currency or maturity mismatches, it may create vulnerability to shocks.

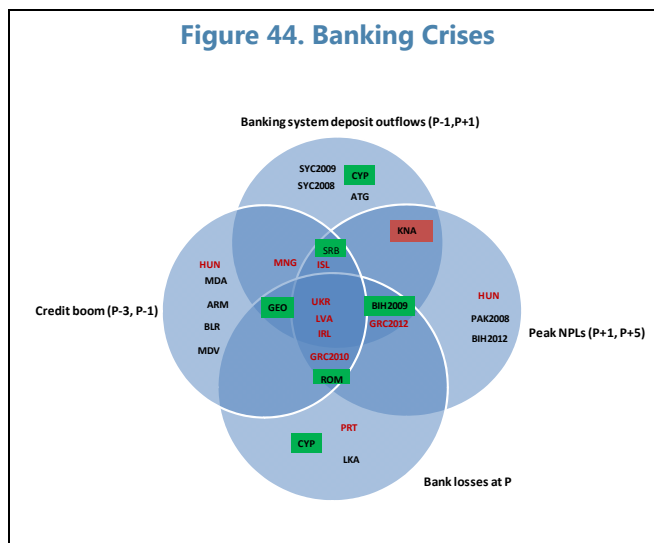
⁴² See Citi (2015) and IMF (2015c).

Figure 43. Balance Sheet Concerns and Investment/Consumption Growth During Programs



55. Credit growth tended to be weaker in cases where balance sheets were more strained.

Balance sheet problems stemmed from exposure to highly indebted non-financial corporations and households (Ireland, Portugal, and Cyprus) and public sectors (Greece, 2010; Cyprus), banks' business models (Hungary, Iceland, and Ireland), and protracted weaknesses in economic activity (Greece, 2012). As banks sought to rebuild capital to meet regulatory requirements, fewer resources were available for new lending to businesses and households. Over one-third of programs (12 of 32) experienced a banking crisis, defined by a sharp loss of liquidity due to a deposit run, a failure to rollover wholesale (often external) borrowing, or a large erosion of capital owing to a collapse in asset quality (Figure 44).



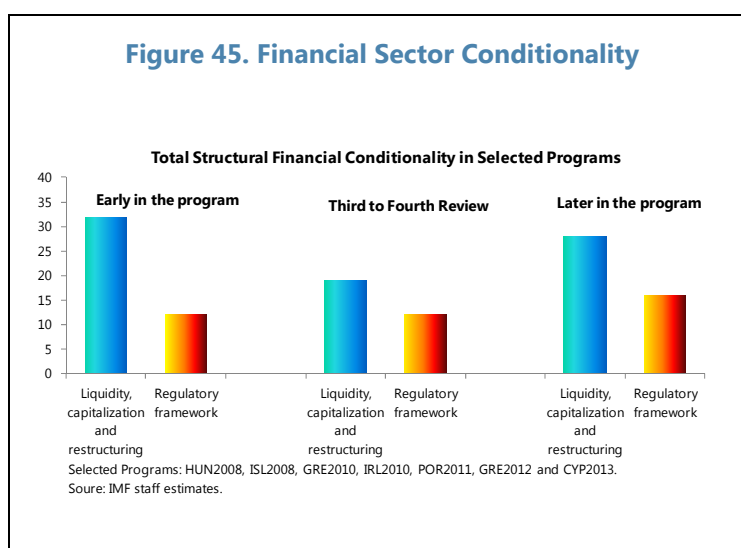
56. Adverse feedback loops developed, in some cases, between stressed balance sheets, falling credit, and weak economic activity. Stress in non financial and financial private balance sheets stemmed from various sources, including the post-Lehman sudden stop in capital

flows that exposed banking sector business models based on wholesale funding, and the collapse in real estate and other asset prices that reduced household net worth. In several countries weak economic conditions undercut household and business cash flow, reducing credit demand and increasing NPLs, in turn contributing amid the uncertainty associated with the crisis to curtailing the ability of banks to supply new credit, with tighter credit then holding back economic activity further (Cyprus, Hungary, Iceland, Ireland, and Latvia).⁴³

57. **Program experience underlined the importance of balance sheet analysis for identifying sources of vulnerability and the transmission of shocks.** As noted in the 2014 Triennial Surveillance Review,⁴⁴ the Fund’s use of the balance sheet approach had fallen into abeyance ahead of the global financial crisis, which may have hindered the detection of risks associated with European banks’ reliance on U.S. wholesale funding. Steps to address balance sheet data gaps could also allow a better informed identification of the scope for external devaluation in future programs, taking into account estimated balance sheet mismatches.

B. Policies to Address Stressed Balance Sheets

58. **A key goal for programs was to avert or reverse adverse feedback loops.** Specifically, programs focused on addressing bank liquidity and solvency weaknesses, while putting in place measures to facilitate corporate and household debt restructuring, given linkages between financial and non-financial balance sheets. In the event, the programs could not prevent concurrent deleveraging by all sectors. Programs focused initially on liquidity support, liability guarantees, and bank recapitalization with bank resolution, asset restructuring, and insolvency framework measures generally planned for the later stages (Figure 45).



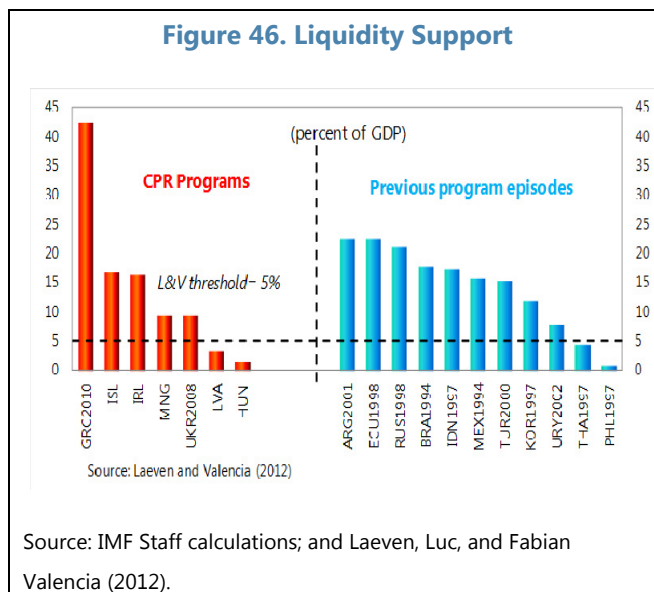
Banking sector support

59. **Substantial bank liquidity support helped avoid deposit runs and limit pressures on domestic and foreign exchange liquidity** (Figure 46). The significant presence of foreign banks in eastern European countries provided a non-public source of back up capital and

⁴³ See Bank for International Settlements (2011).

⁴⁴ See IMF (2014e).

liquidity, which in some cases benefitted from international coordination in the context of the Vienna Initiative.⁴⁵ Foreign banks committed to avoid sudden stops in funding domestic institutions (Bosnia and Herzegovina, Hungary, Romania, Serbia) over the life of the programs, and promised to inject more capital into their subsidiaries to maintain capital adequacy and to cooperate with the domestic regulator on stress tests and action plans. Tight prudential requirements at the outset, as well as stable exchange rates in some cases with high foreign exchange exposure on private balance sheets, helped limit the fallout (Georgia).



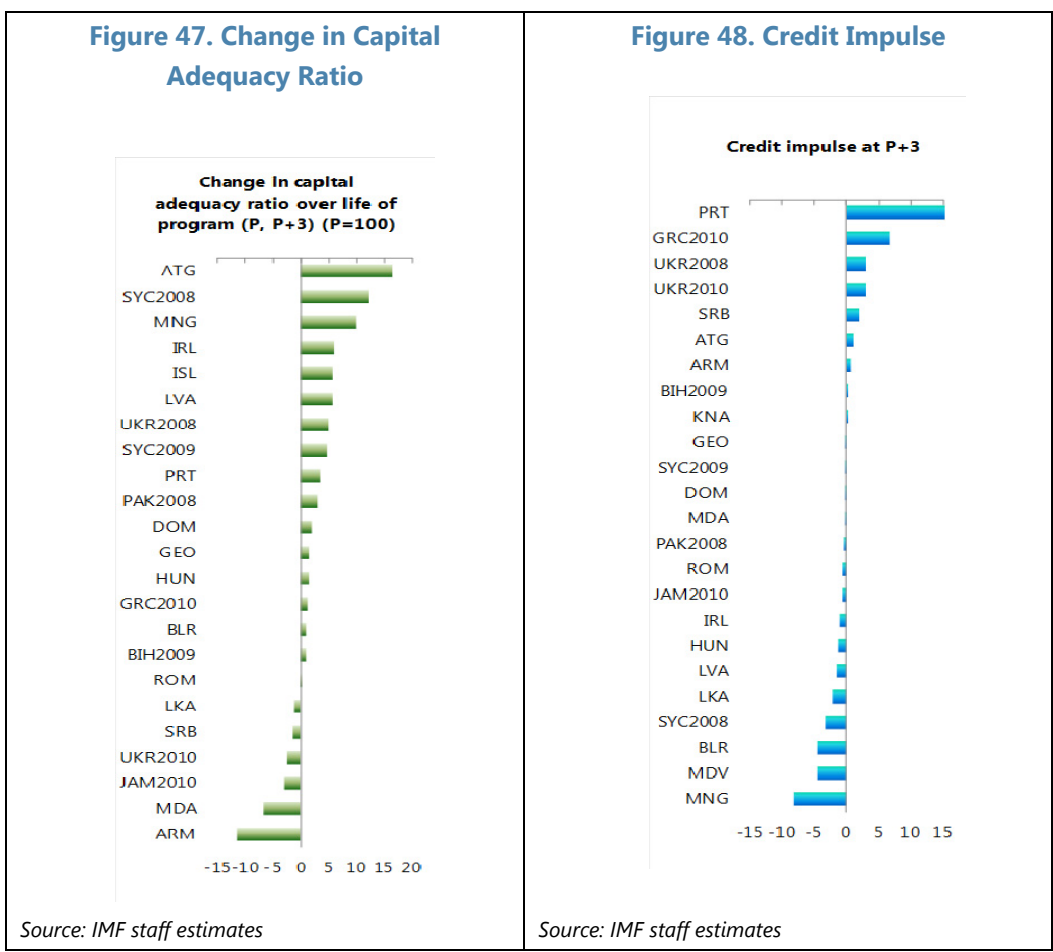
60. **Euro Area banks benefitted from large liquidity support from the ECB and the Eurosystem in the monetary union context.** There were also some specific coordination and program design challenges. Early provision of liquidity and recapitalization of weak banks is critical to avoid major banking crises and limit pressure on domestic and foreign exchange liquidity. However, in the absence of a banking union—a single supervisory-regulatory framework, resolution mechanism, and safety net—to resolve unviable banks and recapitalize systemic ones meant higher borrowing costs for both the sovereign and the private sectors, contributing to amplifying financial market volatility and curtailed bank lending and growth.⁴⁶

61. **Outside the Euro Area, program conditionality focused on dealing with problem banks and improving regulatory and supervisory frameworks** (Georgia, Mongolia, and Pakistan). A few programs also sought to strengthen liquidity management practices (Georgia). In non-banking crisis countries, programs included financial conditionality to contain possible adverse impacts of other program components (for instance, from fiscal reforms) and the cycle, and to increase early warning capabilities, including stress tests (St. Kitts and Nevis).

⁴⁵ The European Bank Coordination “Vienna” Initiative was created in 2009 with the objective of safeguarding financial stability of emerging Europe. It initially focused on monitoring the deleveraging process to avoid abrupt outflows from cross-border banks’ host countries. However, over time, the initiative increased its scope to include other home-host coordination issues, such as supervisory and resolution practices, NPL reduction strategies, and schemes to mitigate the impact of the crisis on weak segments of the market (SMEs).

⁴⁶ See Goyal et al (2013).

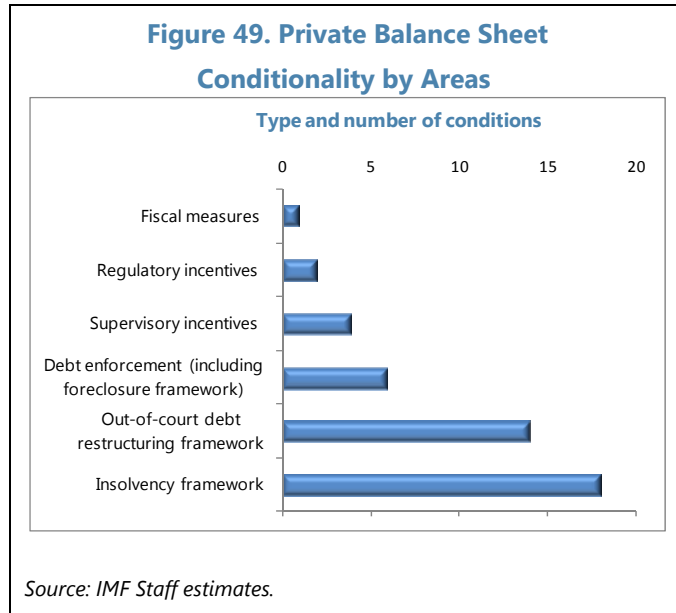
62. **Overall, outcomes from financial sector policies were generally mixed.** Capital adequacy improved in most program cases (Figure 47). NPLs peaked in about half of the banking crises cases, but they continued to rise in some (Bosnia and Herzegovina, Greece, Hungary, and Portugal). Although credit has started to grow again in a few cases, it continued to fall in most cases during the life of the program, holding back economic recovery (Figure 48). Weak credit reflected weaknesses in bank balance sheets as well as the lingering effect of debt overhang in the corporate and household sector. Furthermore, limited progress was made in implementing structural benchmarks and structural performance criteria related to reforms of the financial system, including the legal framework, capital markets, broker dealers, leasing, and insurance (Dominican Republic, Moldova, and Seychelles), in part owing to implementation capacity limitations.



Private debt restructuring

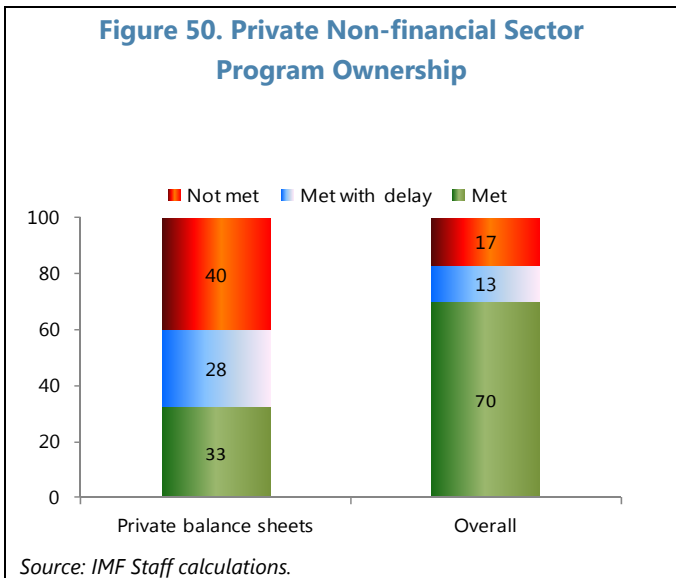
63. **Where high private debt was a concern, program conditionality focused on cleaning up non-financial private balance sheets to help restore creditor solvency and banks’ long-term viability.**

Conditionality was mainly aimed at establishing or amending insolvency frameworks and facilitating voluntary out-of-court debt restructurings (Figure 49). Among the 12 programs featuring high private debt concerns, 6 programs established frameworks to implement case-by-case debt workouts, while Iceland tried to directly address balance sheet stress through a standardized approach for the write-downs of mortgages and SME debt.⁴⁷ Capacity constraints in some cases implied longer implementation periods for the restructuring measures.



64. **Reflecting wider experience with financial sector structural reforms, measures to tackle private nonfinancial balance sheet stress advanced slowly** (Figure 50). On average,

about 70 percent of conditionality on private balance sheets was implemented either with delays, or not met, compared with 30 percent for structural conditionality in general. These slippages partly reflected difficulties in getting buy-in from creditors on restructuring programs, lack of political support and delays in advancing legislation to promote private debt restructuring, and difficulties in setting up out-of-court frameworks for resolving private sector debt (Cyprus and Ukraine).⁴⁸



⁴⁷ Under the standardized approach, debts that met certain criteria were automatically written down.

⁴⁸ See Liu and Rosenberg, 2013.

65. **Other factors also hampered efforts to reduce private sector debt ratios.** In particular, weak economic growth in programs characterized by tight fiscal policies made it more difficult for the private sector to deleverage (Figures 51 and 52). In addition, write downs of non-financial private debt would have exacerbated banks' losses and increased the amount of public support needed to recapitalize the banks, running up against fiscal consolidation objectives. In some other programs, public sector restructuring and labor market reforms adversely impacted job security and debt service capacity.

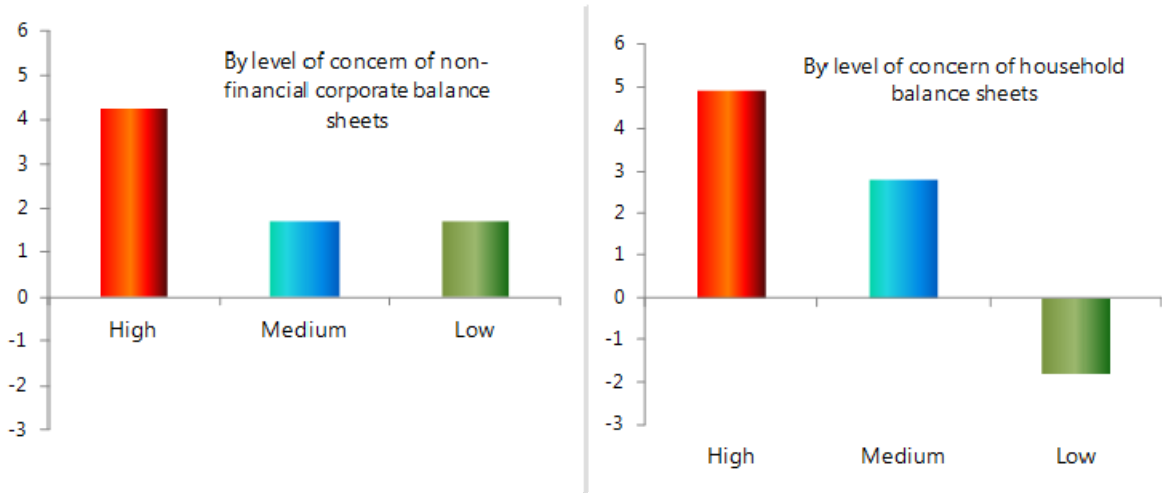
66. **Overall, progress in reducing debt outright was limited.** Only a few countries with high-or medium-debt concerns achieved outright nominal debt reductions for the private sector (Greece, Hungary, Iceland, Ireland, Latvia, Portugal, Romania, and Ukraine), while a larger number achieved deleveraging when stronger economic activity reduced debt-GDP ratios (Figures 53 and 54).⁴⁹ While household sectors in most programs saw a decline in debt-GDP ratios, in about half of programs the non-financial corporate sector saw no debt-GDP improvement. In sum, while rapid progress in debt restructuring is clearly difficult, experience suggests the best prospects are provided by action on several fronts. Priorities include: (i) early emphasis on addressing legal deficiencies and enhancing insolvency and debt enforcement frameworks, including by establishing options for out-of-court restructuring; (ii) measures to enhance prudential supervision to incentivize banks to write off or restructure debts, such as through targets for NPL reductions (as under the Cyprus program) or time limits on carrying NPLs; and (iii) establishment of markets or institutions to handle distressed debt, such as the asset management companies established in Ireland and Latvia.

Financial supervision and regulation

67. **In several program countries, particularly in Europe, the crisis revealed an excessive buildup of risks in bank balance sheets, often as a result of gaps in supervisory arrangements that did not keep pace with rapid financial integration.** In the run-up to the crisis, banks in Europe increased their funding from wholesale markets, including financial centers and off-shore jurisdictions. While the buildup partly owed to asymmetries in financial development and the presence of foreign entities in domestic systems, in some cases it also reflected a relaxation of bank credit standards (Iceland, Romania) and was accompanied by currency mismatches. Over time, the accumulation of foreign liabilities also led to a weakening of the domestic monetary transmission channels, challenges posed by weak subsidiaries of parent banks from crisis countries (Greek and Cypriot banks), credit market fragmentation as private and sovereign funding costs diverged, and a worsening of the financial-fiscal linkage. Eventually, improved supervision and regulation led to the banks' gradual deleveraging from foreign creditors, and to a credit contraction.

⁴⁹ See McKinsey Global Institute, 2015; IMF (2015c); and IMF (2015d).

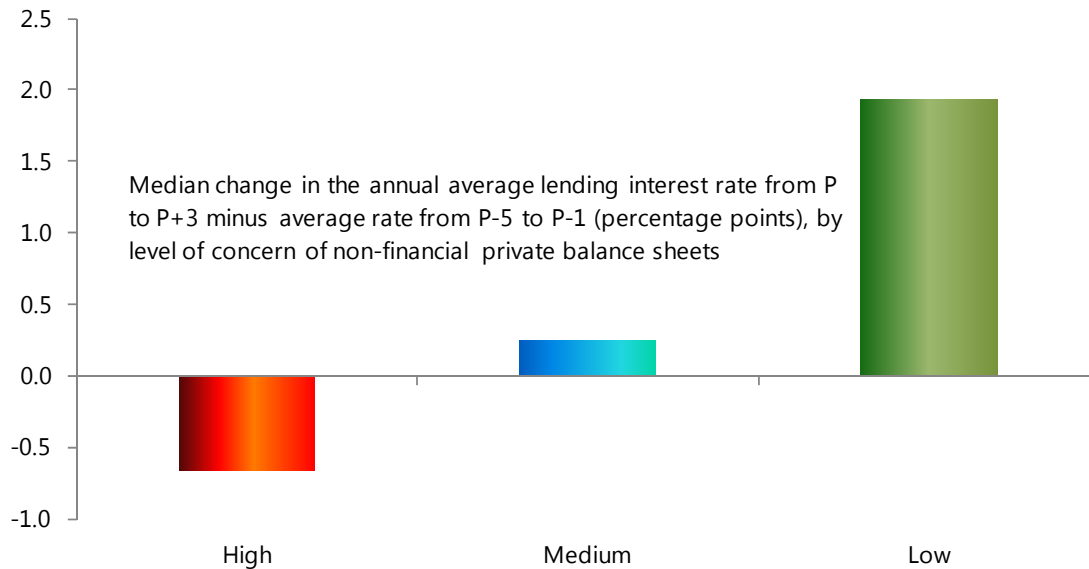
Figure 51. Fiscal Policy and Private Non-financial Balance Sheets ^{1/}



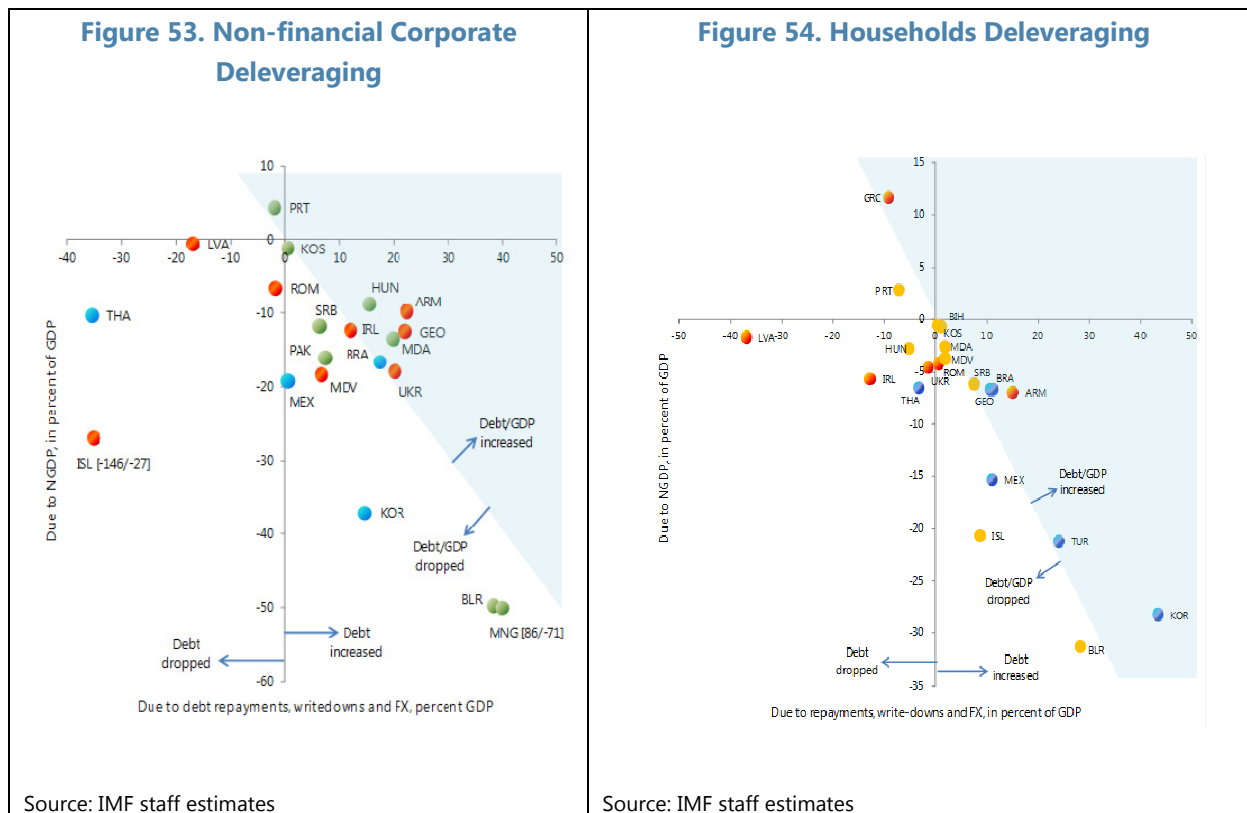
Sources: IMF Staff estimates.

^{1/} Median change in the primary balance as a percentage of GDP from P to P+3.

Figure 52. Monetary Policy and Private Non-financial Balance Sheets



Sources: IMF Staff estimates.



68. **Fund-supported programs were accompanied by increased scrutiny of balance sheets through asset quality reviews and periodic stress testing at the national and regional levels, with a view to preserve solvency and viability of the financial systems.** Programs also incorporated micro prudential measures such as provisioning requirements and limits on foreign exchange exposure to unhedged borrowers to mitigate risks in bank balance sheets (Hungary, 2008; Romania, 2009).

69. **In general, Fund-supported programs did not include the adoption of new macroprudential measures.** A few countries adopted macroprudential regulatory measures ahead of Fund-supported programs (Armenia and Romania), as these measures are typically preventive in nature and adoption during a crisis risks intensifying an already sharp slowdown in credit. Where measures were included in Fund-supported programs, they were typically designed to minimize exchange rate risk—for example, by increasing provisioning and risk weighting for bank’s foreign currency loans, raising reserve requirements for foreign liabilities, and establishing tighter limits on net foreign currency open positions (Armenia, Belarus, and Hungary). In Ireland’s program, liquidity assessments included a review of loan-to-value levels, and in Kosovo’s program, the establishment of a macroprudential committee was required, to help coordinate and communicate existing macroprudential policies.

REGIONAL FINANCING ARRANGEMENTS AND CURRENCY UNIONS: ISSUES FOR PROGRAM DESIGN

In programs that involve co-financing by RFAs, program design needs to ensure clarity regarding the roles of various institutions and to take account of the cumulative extent of conditionality in the context of the authorities' implementation capacity. The G-20 principles on Fund-RFA cooperation provide a helpful foundation for developing more operational guidance toward ensuring clear roles for various partners. For arrangements with members of a currency union, program design needs to deal with the possibility that union-wide policies can have a critical bearing on the member's economic situation. Where changes in currency-union-wide policies are important for program success, the Fund should provide advice through its surveillance as warranted or, when necessary (including for financing assurances), seek commitments on prospective implementation of necessary union-wide policies; alternatively, program design may need to build in greater adjustment and financing, or Fund involvement be postponed.

A. Co-financing with RFAs

70. **With the role of RFAs in the global economic and financial system set to grow, a question for the Fund is whether the recent crisis programs experience provides lessons for future Fund-RFA interaction.** RFAs are playing an expanded role in many regions, including Europe, Asia and the Commonwealth of Independent States, and are an important complement to the Fund in the global financial safety net. They can bring valuable understanding of regional policy challenges and foster increased ownership of adjustment programs.⁵⁰

71. **In the recent Euro Area programs, financing was provided through arrangements from the IMF and a new RFA established in response to the crisis, the European Financial Stability Facility (EFSF) or its successor, the European Stability Mechanism (ESM).**⁵¹ The collaboration between the IMF, EC, and ECB (the so-called "Troika") extended beyond financing to include program design. While the Fund alone determined whether the necessary conditions to complete a program review were met, the continued support of the EC and ECB was relevant for the Fund's assessment in that it provided needed financing assurances by facilitating EFSF/ESM financing. Effectively, therefore, reviews under the IMF and RFA arrangements depended on agreement among the three institutions on the authorities' performance and on reaching understandings with the authorities on objectives and policies.

⁵⁰ See IMF (2013d).

⁵¹ As a new institution, the EFSF/ESM was represented in program discussions by the European Commission (EC). Disbursements by the EFSF/ESM were based on countries' compliance with a Memorandum of Understanding between the government and the EC. The European Central Bank (ECB) played an important financing role via the purchase of sovereign bonds in secondary markets while the national central banks also provided important financing via the extension of emergency liquidity to financial institutions in program countries.

72. **The G-20 endorsed six non-binding principles for IMF-RFA collaboration in 2011 that provide a foundation upon which to build clearer operational guidance.** These principles encourage ongoing and early cooperation; the recognition of areas of comparative advantage; the importance of consistent lending conditions; the need for flexibility in adjusting conditionality and the timing of reviews; the need to respect the roles, independence, and decision-making processes of each institution; and the need to respect the Fund's preferred creditor status (Box 4). More operational guidance on IMF-RFA collaboration could help clarify the respective roles of the various institutions, such as the Fund's responsibility for assessing the macroeconomic framework and use of related tools such as debt sustainability analysis, as well as ensure the cumulative conditionality faced by the member is well aligned with implementation capacity. Understandings the Fund currently has in place with multilateral development banks, including the World Bank, have helped strengthen collaboration with those institutions. In any such interactions, IMF involvement needs always to adhere to the Fund's mandates, rules, policies and procedures.

B. Program Design in Currency Unions

73. **Program design concerning members who belong to a currency union faces several considerations.** Membership of a currency union can bring important benefits, including gains associated with closer and deeper economic integration, a credible nominal anchor, and facilities such as a regional backstop for sovereign financing. At the same time, union-wide policies such as monetary, exchange rate, and financial policies that are under the effective control of supranational authorities may be important for addressing the underlying economic imbalances in the member that the program seeks to remedy.⁵² In addition, program design may need to take account of member's commitments to other union-wide policies.

74. **The Euro Area program experience shows the architecture of the currency union has important implications for crisis prevention and resolution.** Fiscal union and consolidated supervision and resolution are important to achieve ex-post risk sharing and to deal with the cross border nature of vulnerabilities, respectively. A broad set of liquidity tools is important to address market dysfunction, including in the form of market runs on sovereign issuers and delays or avoidance of necessary debt restructuring, as well as to allow union-level institutions directly to recapitalize banks.

⁵² If the currency union has an external currency anchor, as practiced in the ECCU, West African Economic and Monetary Union (WAEMU), and Central African Economic and Monetary Community (CEMAC), then the policy levers are even further removed from the individual member.

75. **There are several approaches for the Fund to designing programs with members in a currency union.** Conditions on union-wide policies are consistent with the Fund's Articles of Agreement.⁵³ They are, however, difficult to implement in practice as policy changes at the union level that may be desirable from the point of view of a particular member may not be so for others in the union, particularly if spillovers from the member to others are not considered to be systemic. More generally, union-wide policies can be hard to change quickly as they can involve complex decision-making procedures and multiple countries. In these circumstances, the Fund can take union-wide policies as given and focus instead on policies effectively controlled at the national level, such as fiscal and structural policies, although such an approach could increase the required program adjustment effort and financing needs. Alternatively, the Fund could seek commitments from union-wide institutions with respect to changes in union-level policies that may be necessary for the success of the member's program (Box 5); it should also provide such advice through surveillance where warranted. If these approaches prove unworkable, it may be necessary to postpone Fund support until staff can give the Board an assurance that the relevant problems are being adequately addressed.

Box 4. G-20 Principles for Cooperation Between the IMF and RFAs

Six non-binding broad principles for cooperation were agreed, and endorsed by G-20 Leaders in November 2011. The preamble to the Principles states that collaboration with the IMF should be tailored to each RFA in a flexible manner in order to take account of region-specific circumstances and the characteristics of RFAs.

- (1) An enhanced cooperation between RFAs and the IMF would be a step forward toward better crisis prevention, more effective crisis resolution and would reduce moral hazard. Cooperation between RFAs and the IMF should foster rigorous and even-handed surveillance and promote the common goals of regional and global financial and monetary stability.
- (2) Cooperation should respect the roles, independence and decision-making processes of each institution, taking into account regional specificities in a flexible manner.
- (3) While cooperation between RFAs and the IMF may be triggered by a crisis, ongoing collaboration should be promoted as a way to build regional capacity for crisis prevention.
- (4) Cooperation should commence as early as possible and include open sharing of information and joint missions where necessary. It is clear that each institution has comparative advantages and would benefit from the expertise of the other. Specifically, RFAs have better understanding of regional circumstances and the IMF has a greater global surveillance capacity.
- (5) Consistency of lending conditions should be sought to the extent possible, in order to prevent arbitrage and facility shopping, in particular as concerns policy conditions and facility pricing. However, some flexibility would be needed as regards adjustments to conditionality, if necessary, and on the timing of reviews. In addition, definitive decisions about financial assistance within a joint program should be taken by the respective institutions participating in the program.
- (6) RFAs must respect the preferred creditor status of the IMF.

⁵³ The Fund's Articles of Agreement allow for the establishment of conditions for the financing of member countries, including those to be implemented at the union level. As a general matter, Article V, Section 3(a) mandates the Fund to adopt policies for the use of its resources that will help members to resolve their balance of payments problems and ensure adequate safeguards for the use of the Fund's resources. This provision thus establishes the Fund's inherent ability to call for the adoption of union-level measures where such measures are necessary for the success of a member's Fund-supported program and/or to safeguard Fund resources.

Box 5. Aligning Union-wide Policies to The Needs of Fund-Supported Programs

Euro Area

Conditionality in Euro Area programs was limited to policies under the effective control of the member. Accordingly, performance criteria and structural benchmarks focused on fiscal, structural, and financial issues.⁵⁴ In addition, the Fund used two approaches to get changes in policies at the union level. First, the Fund sought formal commitments as in the case of financing assurances from the euro group. Second, at the same time, the Fund sought an adjustment in policies by union wide-institutions in the context of regular surveillance engagement. For example, the Fund in the context of regular surveillance sought looser monetary policy, relaxed collateral requirements for liquidity facilities, and measures to strengthen the union's institutions and architecture, for example by establishing a banking union and putting in place a common fiscal backstop (IMF, 2012a). In advocating for these reforms, the Fund viewed the policy changes as appropriate both for the success of Fund-supported programs in the Euro Area as well as to address underlying vulnerabilities within the Euro Area as a whole.

Over time, Euro Area policymakers made substantial changes to the policy mix and the union architecture, radically improving its crisis management ability. Important progress was made with respect to the stance of monetary policy (including quantitative easing), emergency liquidity provision, balance of payments support, the framework for fiscal governance, and banking union. These changes were critical to ameliorating undue pressures on sovereign financing, enhancing fiscal discipline, and mitigating the contingent liabilities of governments under stress. Moreover, in the case of Cyprus, the enhanced supranational firewall allowed for deeper restructuring without fear of contagion. Europe is now in a far stronger position to prevent and address future imbalances.

Eastern Caribbean Currency Union (ECCU)

In the context of stand-by arrangements with Antigua and Barbuda (2010) and with St. Kitts and Nevis (2011), programs included structural benchmarks (Antigua and Barbuda) and a prior action (St. Kitts and Nevis), both within the competence of the Eastern Caribbean Central Bank (ECCB). This conditionality was supported by the ECCB. In the case of Antigua and Barbuda, the ECCB provided formal written assurances on the structural benchmarks that were circulated to the Executive Board. In the case of St. Kitts and Nevis, the prior action took the form of an agreement between the ECCB and St. Kitts and Nevis authorities on commercial banking issues, with implementation also reported to the Executive Board.⁵⁵ In both country cases, the measures were judged not to have broader implications for the currency union as a whole.

⁵⁴ At the time the programs were initiated, banking sector and supervision was primarily a national responsibility but this subsequently shifted to the ECB.

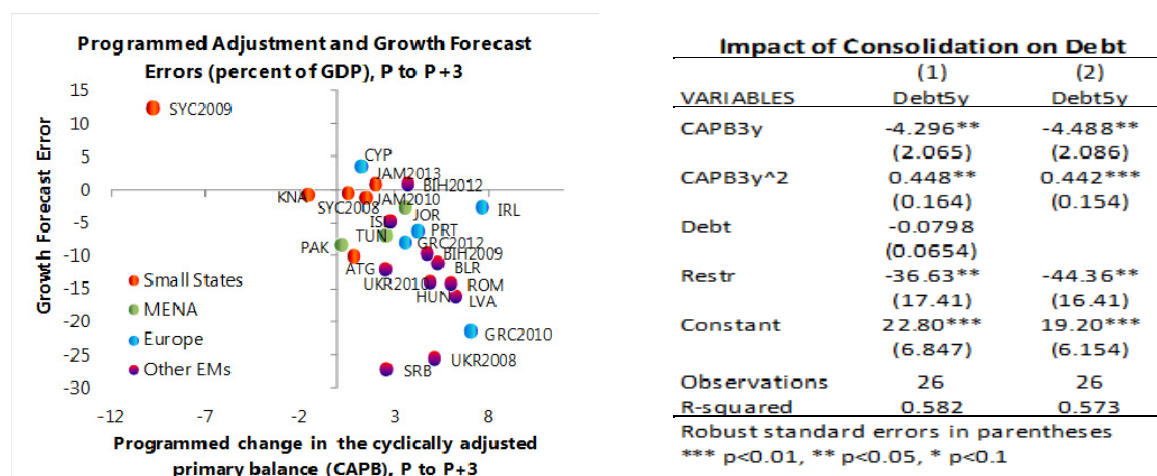
⁵⁵ For St Kitts and Nevis, see EBS/11/119, July 20 2011, and for Antigua and Barbuda, EBS/10/96, May 25, 2010.

Annex I. Fiscal Consolidation and Debt Dynamics

1. **Fiscal consolidation influences debt dynamics mainly through two channels.**¹ A stronger primary balance reduces new borrowing, helping strengthen debt dynamics. At the same time, fiscal adjustment can have adverse impacts on debt dynamics by slowing output growth and reducing the economy’s capacity to support a given debt burden. The latter effect is potentially most important for very large fiscal adjustments, especially where conditions give rise to large fiscal multipliers.

Regression analysis of fiscal consolidation and debt

2. **Fiscal multipliers.** In line with Blanchard and Leigh (2013), this study finds evidence that fiscal multipliers were larger than programmed during the three years following the start of the program.² Growth forecast errors (difference between actual outturns and program projections) were more negative for programs with larger fiscal adjustments (left text chart).³



3. **Fiscal consolidation and debt dynamics.** The table presents results from a cross-section regression of the five-year change in the public debt-GDP ratio against the change in the cyclically-adjusted primary balance (CAPB, in percent of potential GDP), all measured from the start of the program. Other selected control variables are included and data cover 26 programs.⁴

¹ A third channel would be the interest rate channel, which typically shows country spreads declining as market confidence grows.

² While several confluent factors could influence the size of the fiscal multipliers, including confidence and political uncertainty, the study by Blanchard and Leigh (2013) shows that such factors do not materially change the conclusion that fiscal multipliers were larger than assumed.

³ Fiscal adjustment is captured by the change in the CAPB over three years after program start. Structural primary balances are considered where appropriate.

⁴ For robustness, we also use the change in the CAPB over two years and the debt ratio over three years. We exclude the outliers of fiscal expansions larger than 2 percent (Seychelles, Antigua and Barbuda and Dominican Republic). An additional robustness check, using a cubic specification, yields similar results on the impact of consolidation on debt dynamics with slightly stronger effects on the accumulation of debt at higher levels of consolidation.

A possible non-linear relationship between changes in the debt ratio and fiscal consolidation is explored using a quadratic function.⁴ Control variables include initial public debt and a dummy for restructuring cases. The following specification corresponds to specification (1) in the text table.

$$\Delta Debt(5y)_i = constant + \alpha_1 \Delta CAPB(3y)_i + \alpha_2 \Delta CAPB(3y)_i^2 + \beta initialDebt_i + \gamma Restr_i + \varepsilon_i$$

4. **Non-linear consolidation effects.** The results based on analysis using the sample of countries covered in this review show that fiscal consolidation initially has a positive impact on debt dynamics (Figure 26). Three-year tightening of the CAPB by up to 5 percentage points reduces the change in the debt-GDP ratio. Beyond that point, additional fiscal consolidation has an increasingly adverse impact on medium-term debt-GDP dynamics. This non-linear relationship holds even after controlling for bank recapitalization costs, which have in some instances contributed to increasing the debt ratio (Iceland, Ireland, and Greece 2012), and excluding the Greece 2010 and Maldives programs, which featured large fiscal consolidation. Over the long term, however, as fiscal multipliers unwind, large fiscal consolidation should have a positive impact on debt dynamics. In addition, debt reduction through restructuring would not have been possible in programs that did not also contain significant fiscal consolidation.

Debt dynamics modeling

5. **An augmented dynamic debt equation.** The debt-to-GDP ratio can be expressed a function of the multiple of the lagged debt ratio and the interest-growth differential (also known as the snowball effect) and the primary fiscal balance, as follows:

$$Change\ in\ debt\text{-}to\text{-}GDP_{t+1} = debt\text{-}to\text{-}GDP_t (interest\ rate - growth) - primary\ balance_{t+1} + residual_{t+1}$$

This standard dynamic debt equation can be augmented by splitting growth and primary balance into their cyclical and permanent/structural components to enable us to focus on the effects of fiscal consolidation on growth. This can be done by introducing an impact fiscal multiplier m , denoting the same-year loss in output as a result of fiscal consolidation; and a hysteresis parameter k , denoting the number of years it takes for that output to be (linearly) recovered. The higher is k , the deeper the hysteresis. Moreover, the equation can be solved forward to express the debt-to-GDP ratio in year $t+s$ as a function of year t debt, and the cumulative over five years of the snowball and primary balance terms. This yields an augmented dynamic debt equation as follows:

$$d_{t+s} = [1 + \underbrace{s(\bar{r} - \bar{g})}_{(i)\ \text{underlying snowball effect}} + \underbrace{\sum_{j=1}^s (\bar{g} - g_{t+j})}_{(ii)\ \text{net cumulative undershoot of output growth from potential due to fiscal consolidation}}] d_t - \underbrace{s^* pb_t}_{(iii)\ \text{cumulative initial primary balances}} - \underbrace{\sum_{j=1}^s \psi(s; f)}_{(iv)\ \text{cumulative direct debt reduction from consolidation (where the consolidation spell could be shorter than s)}} + \underbrace{b \sum_{j=1}^s (\bar{g} - g_{t+j})}_{(v)\ \text{cumulative debt increasing impact of automatic stabiliser effects from consolidation output losses}}$$

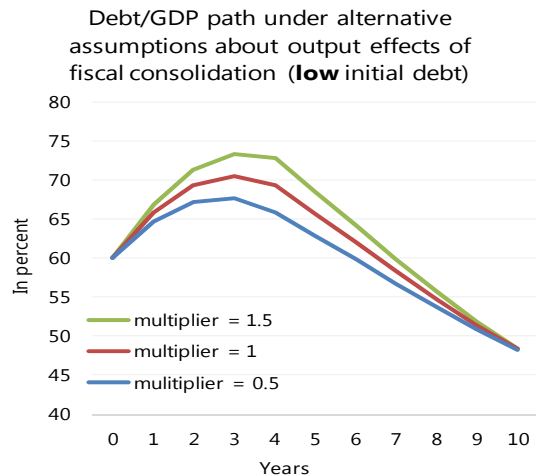
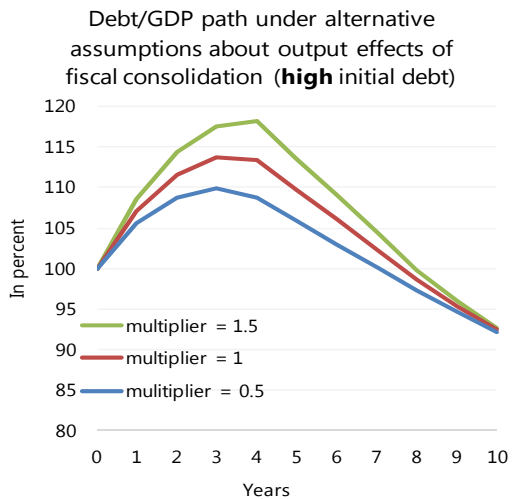
6. **Closed-form representation, as a function of key parameters.** The above equation can be further fleshed out to express the debt-to-GDP ratio in year $t+s$ in terms of the main parameters, notably the multiplier and hysteresis parameters, for the case of a temporary fiscal

consolidation of f percentage points of GDP spanning s years. The resulting equation appears below.⁵ Intuitively, it shows that during the consolidation spell (i.e. when net output loss from consolidation is positive), the debt ratio is increasing in the level of the initial debt ratio, the multiplier, and the hysteresis parameter.

$$d_{t+s} = \underbrace{[1 + s(\bar{r} - \bar{g})]}_{\text{(i) underlying snowball effect}} + \underbrace{smf}_{\text{(ii) net cumulative undershoot of output growth from potential due to fiscal consolidation}} - \underbrace{\frac{s(s-1)}{2k}mf}_{\text{output recovery}}]d_t - \underbrace{s * pb_t}_{\text{(iii) cumulative initial primary balances}} - \underbrace{\frac{s(s+1)}{2}f}_{\text{(iv) cumulative direct debt reduction effect of consolidation}} + b \left(\underbrace{smf}_{\text{(v) cumulative debt increasing impact of automatic stabiliser effects from consolidation induced growth losses}} - \underbrace{\frac{s(s-1)}{2k}mf}_{\text{output recovery}} \right)$$

7. **Debt simulations under various multiplier / initial debt assumptions.** To illustrate the effect of fiscal consolidation on growth quantitatively, we assume a fiscal consolidation spell of 2 percentage points of GDP per year for 4 years (so cumulative adjustment of 8 percent of GDP), an initial primary deficit of 5 percent of GDP, an underlying interest-potential growth differential of 1 percentage point, a hysteresis parameter of 7 years, and an automatic stabilizer coefficient of 0.5. Given these, the left chart shows that when the starting level of debt is high (100 percent of GDP), fiscal consolidation can lead to an increase in debt for up to four years if the multiplier is high (1.5). When debt and the multiplier are low (as in the right chart), however, debt stabilizes after year 2. The results show that fiscal consolidation can sometimes produce large increases in debt over the short to medium term, even though in the long-term, debt is placed on a downward path.

⁵ Similar closed-form expressions can be derived for cases where the duration of the consolidation spell differs from the time at which the debt ratio is being evaluated. These can be provided upon request.



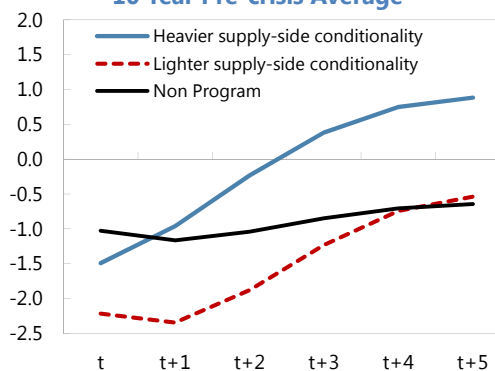
Annex II. Structural Conditionality and Growth Payoffs

1. Indirect evidence is used to assess reform

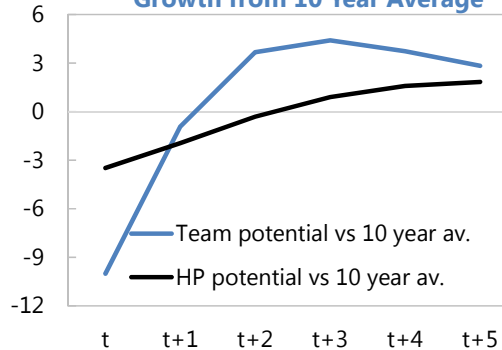
payoffs assumed in programs. As program documents are not explicit about the impact of programmed reforms on growth, this annex analyzes the implicit assumptions. It compares the projected path of potential growth at the time of the arrangement request with historical averages for three groups of countries. These are programs with heavy supply side conditionality (SSC)¹ (i.e., where SSC is in the top quintile, exceeding 15 percent of total conditionality across programs), light conditionality cases (SSC less than 15 percent of conditionality), and non-program cases. As potential growth estimates were available for only a few countries, we use HP-filtered real GDP series (including the five year forward projection) from the WEO vintage after program request.²

2. Programs appear to have assumed significant payoffs from supply-side reforms. In programs with heavy SSC—Dominican Republic, Greece (2012), Jordan, Portugal, Seychelles (2009), Sri Lanka, and Ukraine (2010)—medium-term potential growth was projected at arrangement request to surpass by about 1 percentage point the pre-program 10 year average. This was in sharp contrast with programs with low SSC and non-program countries, where staff projected that medium-term growth potential would fall short of the growth rates of the preceding decade. Comparing countries with heavy SSC with other program countries, the programmed bounce-back was markedly stronger and earlier than for light SSC cases. Thus, growth was projected to return to the 10-year lagged average 1½ years earlier for heavy

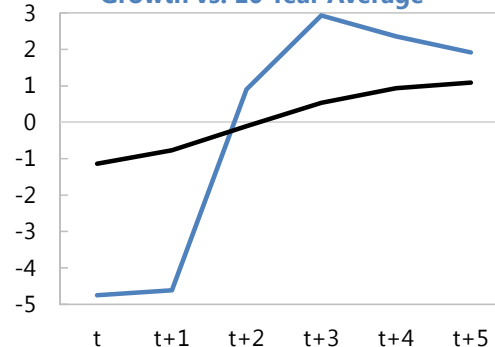
Change in Potential Growth from 10 Year Pre-crisis Average



Greece 2012: Change in Potential Growth from 10 Year Average



Portugal: Change in Potential Growth vs. 10 Year Average

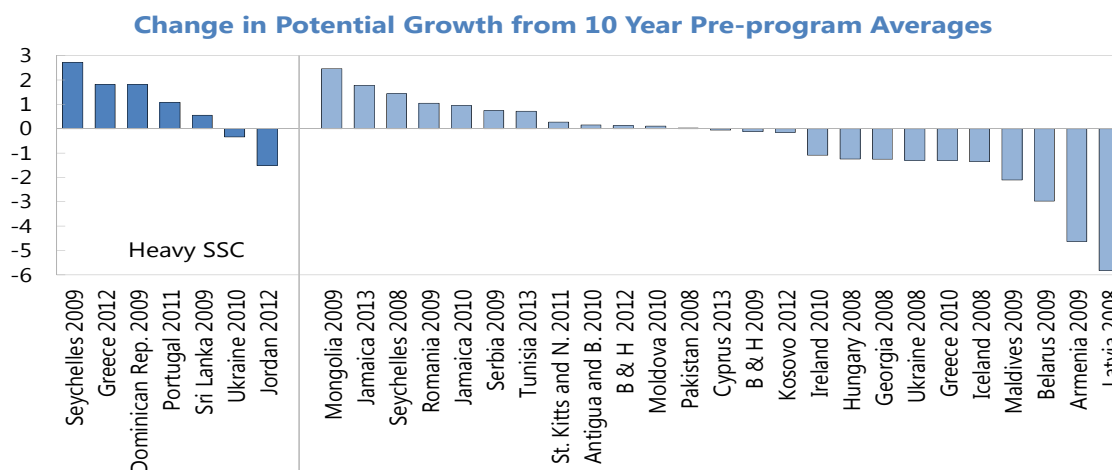


¹ SSC includes: private sector legal and regulatory reform; natural resource and agriculture; anti-corruption legislation; public enterprise pricing; privatization, public enterprise reform; price controls and market access; and labor markets, excluding public sector.

² For non-program countries, the Spring 2010 WEO—corresponding to the peak in arrangement requests—is used.

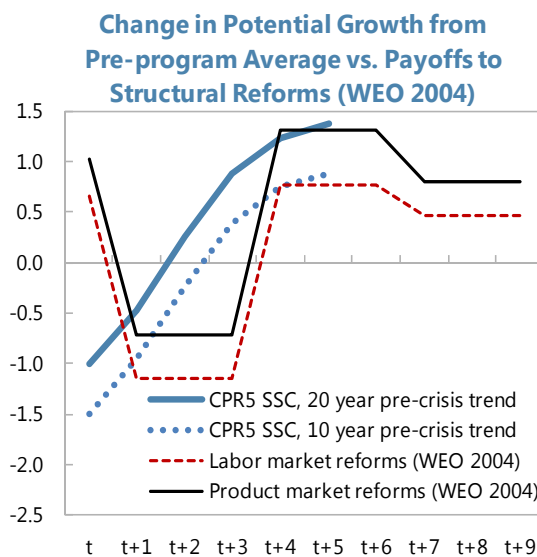
SSC cases, reflecting much stronger recovery in the three years following arrangement approval (t to t+2). While factors other than structural reform ambition may have accounted for the optimism of program potential growth assumptions, the diversity of the heavy SSC grouping does not suggest any obvious such factors. These conclusions are robust to the measure of potential growth that is used, as the examples, using the team’s assessment of potential, for Greece and Portugal show. They also hold if historical potential growth is computed based on a 20 year average.

3. **Program assumptions varied with regard to potential growth.** Among the high-SSC cases, 5 out of 7 are projected to see potential growth after five years that exceeds the 10-year pre-crisis average. This is in stark contrast with less than half (12 out of 25) of low-SSC program cases. Jordan was the only high-SSC country expected to slow down significantly (over 1 percentage point compared to the pre-program decade).



Note: Potential is the HP-filtered growth projected for t+5, as WEO assumes that output gaps are closed by then. Figures for Sri Lanka may be influenced by the recovery from the civil war.

4. **In many cases, potential growth assumptions in the 2nd and 3rd program years looked particularly optimistic.** This is the case whether potential growth is measured using HP filters or other techniques used by IMF staff, such as the production function approach and multivariate models. Thus, two heavy SSC cases (Portugal 2011 and Greece 2012) showed growth projections that exceeded HP filter trends as early as the second program year (Greece) or third (Portugal). The longer term deviations (after 5 years) are smaller. Similar findings apply based on comparisons to the literature. Although projected medium-term payoffs from supply side reform were broadly in line with the literature, the short-



term payoffs from supply side reforms were optimistic. Countries with a heavy supply-side reform agenda were expected to increase potential growth by an average of 1 percentage point above pre-crisis trends after 5 years and longer (and about 1½ percentage point above their low-SSC peers), consistent with WEO (2004) estimates of the average benefits from labor and product market reform (see text figure). However, the projected rebound in potential growth in the second and third years after program launch—much quicker than in non-SSC countries—was at odds with most empirical findings that supply side reforms have in the short run no significant impact on growth (see text figure and table).

5. **The literature suggests a need for conservative assumptions about short-term supply side reform payoffs in recent crisis programs.** While IMF (2015g) and Dabla-Norris et al (2014) find a positive short-term impact of labor market reform on productivity growth, the impact on GDP growth is less certain. Bordon, Ebeke and Shirono (2015) find tentative evidence that growth payoffs are larger if reforms are implemented during periods of slack and if supported by loose fiscal and monetary policies. However, as program countries rarely have the policy space for countercyclical macroeconomic policy, it is not clear whether those short-term growth payoffs would materialize given the dislocation costs that labor and product market reforms entail. This is consistent with the findings of OECD (2015) that during cyclical downturns, labor and product market reforms aimed at restoring competitiveness through lower relative production costs and prices are likely to further reduce demand. Product market reforms that increase competition in formerly protected sectors displace workers and capital in the short run leading to the exit of least productive firms (Blanchard and Giavazzi, 2003). In normal times, displaced resources are absorbed eventually by new entrants, more competitive firms that are expanding production or by other sectors. In a downturn, demand may respond less to the lower prices resulting from competition. In this case, displaced resources will be unemployed for longer as a bleaker profit outlook and credit constraints slows the entry of new firms or the expansion of incumbent firms (Lee and Mukoyama, 2015). This may be particularly true if there is a large debt overhang (Eggertsson and Krugman, 2012) or if monetary policy is at the zero lower bound (Eggertsson et al., 2014). Similarly, labor market reform that puts downward pressure on wages will have an uncertain effect on demand in the short term during a downturn. Lower wages may not so quickly result in employment gains as in normal times, while consumer demand would be weaker in the short term due to lower disposable income.

Recent Empirical Literature: Impact of Product and Labor Market Reform on Growth

Paper	Sample	Impact	Impact only in medium-term
Product Market Reform			
Berger and Danninger (2007)	OECD	Large-scale labor and product market reforms can lead to additional employment growth of 1-1.3 percentage points annually.	
Bouis and Duval (2011)	Euro area	Country-specific reform packages increase gain in potential growth by more than 10 percent of GDP for most EU countries over a 10-yr period.	X
Bouis et al (2012)	OECD	Product market reforms increase employment in the medium-term	X
Bourles et al. (2013)	OECD	Measured at the average gap, the effect of increasing competition in upstream sectors by instantaneously eliminating all anticompetitive regulations is to increase multifactor productivity growth by over 1 % per yr.	
Dabla-Norris et al. (2015)	Euro area	Product and labor market reform would increase productivity in the medium-term.	X
Perez and Yao (2012)	OECD	Services deregulation, combined with reducing tax wedges and replacement rates could reduce unemployment rate by $\frac{3}{4}$ - $5\frac{1}{2}$ ppts.	
Labor Market Reform			
Barnes et al (2011)	OECD	0.9 ppt increase in GDP per capita after 10 years due to the change in labor market policies implemented by OECD countries on average between 1996-2006.	X
European Commission (2010)	EU	0.3 ppt increase in potential output in the long-run from a 1% tax shift from labor to VAT.	X

Annex III. Classifying Private Balance Sheet Concerns

1. **Data issues:** The analysis uses data on aggregate non financial corporations (NFC) and households (HH) debt stocks from BIS, and individual countries' central banks.
2. **Classification:** Countries with Fund-supported programs can be classified accordingly by high (red), medium (orange) and low (green) concern with respect to both NFC and HH balance sheets. The objective is to uncover relationships between debt concern and program design as well as outcomes.
3. **Indicator definitions:** Three indicators are employed to measure potential for debt overhang at $p=0$: Size, Composition, and the annual change in the debt-to-GDP ratio. Size is measured as the percent deviation of outstanding debt to GDP from a benchmark predicted by a cross-country regression of debt to GDP on GDP per capita and institutional quality; Composition is measured as the percent share of FX debt in total debt; change is measured in two ways: as the percentage point increase in debt to GDP ratios during the 5-year period preceding the global financial crisis; and as the average annual increase in debt to GDP ratio during the same period.
4. **Indicator intuition:** The indicator Size measures the extent to which a sector's debt stock may have grown out of proportion with borrowing needs, debt sustainability and risk management; the indicator Composition measures likely debt overhang as a result of exchange rate depreciation; the indicator Change measures the size of a potential pre-crisis credit boom as a proxy for risky borrowing and lax credit standards.
5. **Indicator thresholds:** Size is classified as high (medium) when the indicator is greater than 50 percent (25 percent); Composition is classified as high (medium) when the FX share is greater than 60 percent (30 percent) for NFCs and 30 percent (15 percent) for HHs; Change is high when the increase in debt to GDP is larger than 20 percentage points (10 percentage points) or amounts to an annual percent increase larger than 20 percent (10 percent).¹
6. **Overall rating:** Private debt was a concern in several program countries with private balance sheets in 20 out of the 27 program countries characterized by "high or medium" debt levels. The overall rating is calculated as the average of the three indicator ratings. When the overall rating is tied between high/medium or medium/low, the higher rating is picked. When two indicators are high, the overall rating is automatically high.

¹ The threshold for *Size* is chosen to reflect statistically significant deviations from country specific benchmarks to allow for a margin of error. The *Composition* thresholds are chosen according to reference points often cited in the dollarization literature. The *Change* threshold for the average annual percent increase follows one definition of credit booms in Dell'Ariccia et al (2012).

References

- Aiyar, S., W. Bergthaler, J. M. Garrido, A. Ilyina, A. Jobst, K. Kang, D. Kovtun, Y. Liu, D. Monaghan, and M. Moretti, 2015, "A Strategy for Resolving Europe's Problem Loans", IMF Staff Discussion Note, September 2015.
- Barnes, S (2011). The GDP Impact of Structural Reform: A Simple Simulation Framework. No. 834. OECD Economics Department Working Papers.
- Bank for International Settlements, 2011, "The transmission channels between the financial and real sectors: a critical survey of the literature," Basel Committee on Banking Supervision Working paper No. 18
- Berger, H. and S. Danninger, 2007, —The Employment Effects of Labor and Product Market Deregulation and Their Implications for Structural Reform, IMF Working Paper No. 06/137 (Washington, International Monetary Fund)
- Blanchard, O. and D. Leigh, 2013, "Growth Forecast Errors and Fiscal Multipliers", IMF Working Paper 13/1, January 2013
- _____ and F. Giavazzi, 2003, "Macroeconomic Effects of Regulation and Deregulation in Goods and Labour Markets", Quarterly Journal of Economics, Vol. 118 (3): 879-907.
- _____, M. Griffiths and B. Gruss, 2013, "Boom, Bust, recovery Forensics of the Latvia Crisis," Brookings Papers on Economic Activity, vol. 47, issue 2 (Fall), pages 325-388.
- Bordon A., Ebeke C., and Shirono K., 2015 —When Do Structural Reforms Work? On the Role of the Business Cycle and Macroeconomic Policies, IMF working paper, forthcoming.
- Bouis, R. and R. Duval, 2011, —Raising Potential Growth After Crisis: A Quantitative Assessment of the Potential Gains from Various Structural Reforms in the OECD Area and Beyond,|| OECD Economics Department Working Papers, No. 835, OECD Publishing, Paris.
- _____, Causa, O., Demmou, L., Duval, R., & Zdzienicka, A. (2012). The Short-Term Effects of Structural Reforms. OECD Economics Department Working Papers, No. 949, OECD Publishing, Paris.
- Bourlès, R., Cette, G., Lopez, J., Mairesse, J., & Nicoletti, G. (2013). Do product market regulations in upstream sectors curb productivity growth? Panel data evidence for OECD countries. Review of Economics and Statistics, 95(5), 1750-1768.
- Clements, B., S. Gupta, & M. Nozaki (2013). What Happens to Social Spending in IMF-Supported Programs? Applied Economics, Volume 45, Issue 28.

Citi, 2012, "Global Perspectives & Solutions, Debt of Nations, Mr. Micawber's Vindication: Causes and Consequences of Excessive Debt", November 2012.

Crivelli, E. and S. Gupta, 2015, "Does Conditionality in IMF-supported Programs Promote Revenue Reform?", forthcoming *International Tax and Public Finance*, doi:[10.1007/s10797-015-9379-7](https://doi.org/10.1007/s10797-015-9379-7)

Dabla-Norris E., G. Ho, K. Kochhar, A. Kyobe, and R. Tchaidze, (2014) *Anchoring Growth: The Importance of Productivity-Enhancing Reforms in Emerging Market and Developing Economies*

Das, U., M.G. Papaioannou and C. Trebesch, 2012, "Sovereign Debt Restructurings 1950-2010: Literature Survey, Data, and Stylized Facts," *IMF Working Papers* 12/203, International Monetary Fund.

Dell'Ariccia, G., D. Igan, L. Laeven, H. Tong, B. Bakker and J. Vandenbussche (2012), "Policies for Macrofinancial Stability: How to Deal with Credit Booms", *IMF Staff Discussion Note* 12/06.

Eggertsson, G., A. Ferrero and A. Raffo, 2014, "Can structural reforms help Europe?," *Journal of Monetary Economics*, Elsevier, vol. 61(C): 2-22.

_____ and P. Krugman, 2012, *Debt, Deleveraging, and the Liquidity Trap: A Fisher-Minsky-Koo Approach*. *Quarterly Journal of Economics* 127: 1469-1513.

Goyal, R., P. Koeva Brooks, M. Pradhan, T. Tressel, G. Dell'Arteria, and C. Pazarbasioglu, 2013, "A Banking Union for the Euro Area," *IMF Staff Discussion Note* SDN/13/01, February 2013

International Monetary Fund, 2012, "2011 Review of Conditionality—Design of Fund-Supported Programs", International Monetary Fund, June 2012.

_____, 2012a, "Euro Area Policies: Staff Report for the 2012 Article IV Consultation with Member Countries, July 2012.

_____, 2013, "Sovereign Debt Restructuring—Recent Developments and Implications for the Fund's Legal and Policy Framework", *International Monetary Fund*, April 2013

_____, 2013a, *Greece: First and Second Reviews under the Extended Arrangements under the Extended Fund Facility, Request for Waivers of Applicability, Modification of Performance Criteria, and Rephasing of Access*, *IMF Country Report* No. 13/20.

_____, 2013b, *Greece: Ex Post Evaluation of Exceptional Access under the 2010 Stand-By Arrangement*, *IMF Country Report* No. 13/156.

_____, 2013c, "Jobs and Growth: Analytical and Operational Considerations for the Fund", Washington, DC

_____, 2013d, "Stocktaking the Fund's Engagement with Regional Financing Arrangements", 2013.

- _____, 2014, "The Fund's Lending Framework and Sovereign Debt—Preliminary Considerations", June 2014
- _____, 2014b, "IMF Response to the Financial and Economic Crisis", Independent Evaluation Office of the IMF, 2014
- _____, 2014c, "IMF Forecasts: Process, Quality, and Country Perspectives", Independent Evaluation Office of the IMF, 2014
- _____, 2014d, "Review of the Flexible Credit Line, the Precautionary and Liquidity Line, and the Rapid Financing Instrument", International Monetary Fund, April 2014
- _____, 2014e, "2014 Triennial Surveillance Review—Overview Paper", International Monetary Fund, July 2014
- _____, 2015, "The Managing Director's Global Policy Agenda: Confront Global Challenges Together", Washington, DC
- _____, 2015b, "Structural Reforms across the Membership" Sept, 2015, forthcoming
- _____, 2015c, "Regional Economic Issues: Central, Eastern and Southeastern Europe", May 2015;
- _____, 2015d, "Global Financial Stability Report", April 2015
- _____, 2015e, "The Fund's Lending Framework and Sovereign Debt—Further Considerations", International Monetary Fund, April 2015
- _____, 2015f, "Fiscal Policy and Long-Term Growth," IMF Policy Paper, June, IMF: Washington, DC.
- _____, 2015g, " Structural Reforms and Macroeconomic Performance: Country Cases" IMF Policy Paper, November, IMF: Washington, DC.
- Laeven, L., and F. Valencia (2012), "Systemic Banking Crises Database: An Update", IMF Working Paper WP/12/163," International Monetary Fund, Washington, D.C.
- Lee, Y., and T. Mukoyama, 2015, "Entry and exit of manufacturing plants over the business cycle." *European Economic Review* 77: 20-27.
- Liu, Y., and C. B. Rosenberg, 2013, "Dealing with Private Debt Distress in the Wake of the European Financial Crisis, A Review of the Economics and Legal Toolbox", IMF Working Paper 13/44, February 2013
- McKinsey Global Institute, 2015, "Debt and (Not Much) Deleveraging, February 2015, OECD, 2015, "The Short-Run Impact of Structural Reforms"

Pérez, E., and Y. Yao. "Can institutional reform reduce job destruction and unemployment duration? Yes it can." (2012).

Sturzenegger, F., and J. Zettelmeyer. 2006, "*Debt defaults and lessons from a decade of crises.*" MIT press.

Wolf, M., 2015, "The Shifts and the Shocks: What We've Learned—and Have Still to Learn—from the Financial Crisis"