



PILOT EXTERNAL SECTOR REPORT

July 2, 2012

KEY POINTS

- Global external imbalances (current accounts different from those warranted by fundamentals and desirable policies) add to vulnerabilities by exacerbating domestic booms and busts and amplifying spillovers. The most potent source of spillovers from busts is generally via financial contagion, although trade links can also be important.
- Since 2008 global external imbalances have also been accompanied by financial instability and volatile capital flows which has complicated policies for many economies.
- Despite narrowing since the crisis, estimated global external imbalances and associated vulnerabilities are likely to be well above desirable levels without decisive policy actions.
- Internal Euro area imbalances have caused large shifts in internal private flows, placed considerable demands on official funding, and exacerbated global financial instability.
- External imbalances appear to be partly driven and sustained by reserve accumulation and capital account restrictions, and demand rebalancing implies real exchange rate appreciation by surplus regions. Easy money in the advanced country core has supported domestic and global activity, but also spills over into capital flows that complicate policies elsewhere.
- Policy actions are needed across many countries, as most of the analyzed economies have balances that are to some degree out of line with fundamentals. In many advanced economies large and evenly-paced medium-term fiscal consolidations are needed, lowering current accounts balances elsewhere.
- Many emerging markets have adequate reserves for precautionary purposes. Responses to capital flows can include a range of macroeconomic policy adjustments, including greater exchange rate flexibility, but restrictions should not be seen as a substitute for policy adjustment. Structural adjustments, such as product market flexibility, are central to reducing vulnerabilities from external imbalances over time.

This Pilot External Sector Report (ESR) provides a multilaterally consistent analysis of the external positions of major world economies. Following the recommendations of the [2011 Triennial Surveillance Review](#) and the Managing Director's [Statement on Strengthening Surveillance](#), the focus of the analysis has been broadened beyond exchange rates to detailed examinations of current accounts, reserves, capital flows, and external balance sheets. It draws upon the Research Department's past and new methods for assessing current accounts and real exchange rates (see Appendix I), and on previous IMF analytical work on exchange rates, capital flows and measures, and reserves adequacy.

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BACKGROUND

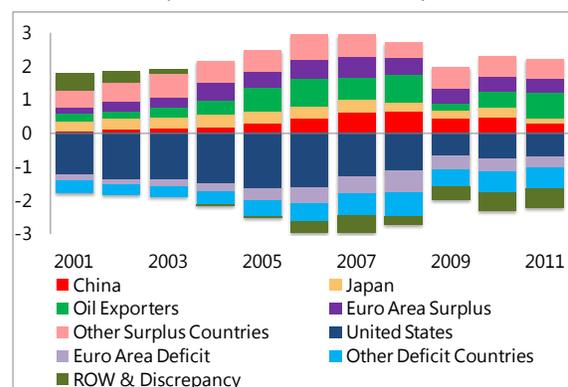
A. Global external imbalances have narrowed with the cycle, but are likely to remain a significant vulnerability without decisive policy actions

1. **Current account divergences across countries appear to be a significant vulnerability and about double those estimated as consistent with fundamentals and desirable policies** (Figure 1). After rising fairly continuously since the mid-1990s, **current account divergences** (the gap between countries with current account surpluses and deficits, see Box) peaked at some 3 percent of global GDP in 2006. This reflected structural distortions as well as cyclical developments, as rising fiscal deficits and unsustainable asset booms in major advanced economies attracted low cost foreign financing. Estimated **external imbalances** (the gap between the current account and the value staff estimates to be consistent with fundamentals and desirable policies) fell as asset price collapsed in these countries. This led to financial instability, a sudden stop of trade and capital flows, lower commodity prices, and a global recession. Even as the global economy remains well below potential and financial conditions highly unsettled, current accounts divergences have widened modestly in the last two years as commodity price increases raised surpluses for *oil exporters*.

2. **External imbalances among Euro area economies have exacerbated global financial instability and economic and financial strains are intensifying.** The **external position** of the Euro

area as a whole has been close to balance, and only slightly weaker than the estimated value consistent with fundamentals and desirable policies. However, this masked, and continues to mask, substantial divergences across the *Euro area* primarily financed from within the union, including by major banks with global links. *Germany* currently has the world's second largest current account surplus, partly with the rest of the world, while *Spain* and (to a lesser extent) *Italy* have deficits. Major estimated external imbalances that are regionally-financed imply a need for substantial real and financial rebalancing within the *Euro area* as well as a much more modest rebalancing by the bloc with the rest of the world. Unsustainably large intra-Euro area imbalances were part of the global

Figure 1. Global Current Account, 2001–11
All Countries: Actual Unadjusted Current Account, 2001–11
(Percent of world GDP)



Source: IMF, World Economic Outlook Database

Key Concepts

This Report uses several terms to refer to the external sector.

Current account divergences represent surpluses/deficits that differ across countries. They may be appropriate or inappropriate.

External imbalances represent the gap between actual current account balances and those estimated by staff to be consistent with fundamentals and desirable policies. They reflect distortions and should be eliminated.

External position covers the overall assessment from the external indicators used in this Report, namely current balances (and the counterpart capital and financial account balance), international investment positions and exchange rates. (Note: for an external position weaker (stronger) than expected the exchange rate is stronger (weaker)).

boom-bust cycle, and the failure to resolve the Euro area crisis is causing heightened stresses that are spilling over to other countries. Given that rebalancing within a currency area involves particular complications, adjustment issues are discussed in a separate section below.

Box 1. Why an External Sector Report?

This Pilot External Sector Report provides a snapshot of multilaterally consistent analysis of the external positions of major world economies at a point in time. It combines the insights from analysis by Fund staff working on individual economies with results from multilateral analysis including models (see Appendix I). **Current account divergences** (the gap between countries with current account surpluses and deficits) are a useful prism for assessing members' overall economic and financial policies as they reflect the combined effect of external policies (e.g., intervention), policies primarily targeted at the domestic economy (e.g., the fiscal stance) and fundamentals (e.g., level of development and demographics).

Not all current account divergences are bad—indeed saving should flow to where it is most productive, so **external positions** should vary across countries, over stages of development, and over the business cycle. However, such divergences can also be a symptom of policy distortions and building vulnerabilities. This paper discusses the estimated size and possible sources of **external imbalances** (i.e. current accounts that are assessed to be out of line with fundamentals and desirable policies). These can lead to distortions and financial vulnerabilities whose removal will benefit the country concerned (for example via a more balanced growth path) and the world in general. Large negative imbalances often involve unsustainable external borrowing. Large positive imbalances, on the other hand, may involve excessive reliance on export-led growth, while closed capital accounts (which may restrict current accounts to being too close to zero) can interfere with the efficient flow of international capital. As imbalances have trade and financial spillovers elsewhere, there is a need for a multilateral assessment.

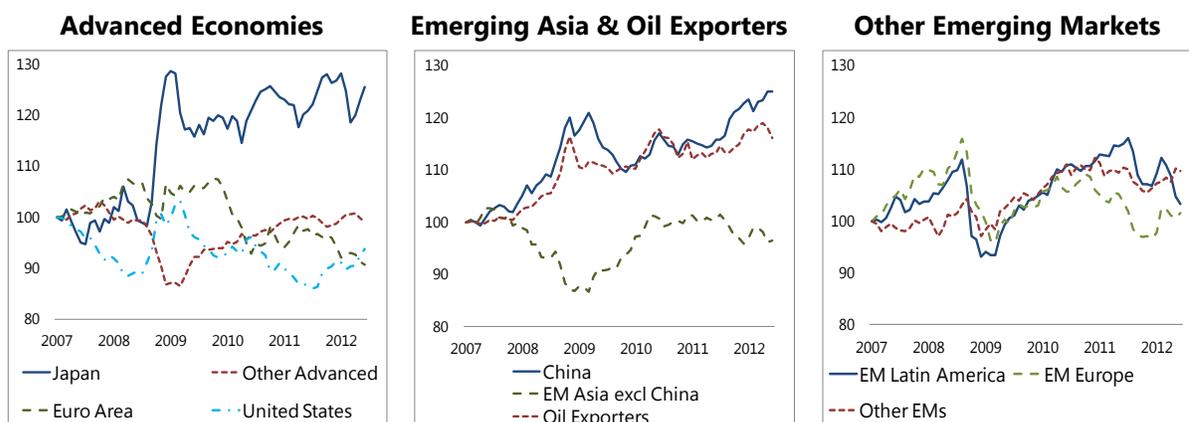
This Pilot External Sector Report helps fulfill the IMF's mandate to promote the stability of the international monetary system and exercise surveillance over exchange rate policies by examining broad aspects of members' external sector positions (including current account balances, exchange rates, capital flows, foreign exchange intervention, and external balance sheets). The Report examines the drivers of external positions and assesses the extent to which they: (i) will abate over the cycle; (ii) reflect policy distortions and potential vulnerabilities; or (iii) are warranted by fundamentals. It complements bilateral surveillance by taking a multilaterally consistent approach to the external sector while providing a more detailed analysis than is available in other IMF multilateral surveillance products.

3. **External imbalances added to global vulnerabilities by exacerbating domestic asset bubbles/busts and the attendant spillovers to the real economy.** As with earlier emerging market crises, external imbalances were a symptom rather than the major driver of the global crisis, whose main causes were loose financial supervision and monetary policies which generated unsustainable asset booms in many major advanced economies. But estimated external imbalances—calculated at several times those justified by fundamentals and desirable policies—

facilitated the buildup in global vulnerabilities. Cheap foreign financing added to the investment booms that created domestic asset bubbles and subsequent busts and amplified spillovers to the rest of the world. The most potent source of spillovers from financial busts is generally through financial contagion (see the *2012 Spillover Report*, forthcoming), although trade links can also be important, particularly via spending on durable goods that are highly traded across countries (see the [2011 Consolidated Spillover Report](#)). Indeed, vulnerabilities associated with current account divergences could currently be rising in emerging markets with rapid credit growth and asset price inflation.

4. **Current account divergences are unlikely to return all the way to their pre-crisis highs as real exchange rates have generally risen in surplus regions and fallen in deficit ones** (Figure 2). Since 2007, real effective exchange rates of major surplus regions—*China, oil producers, and Japan*—have tended to appreciate. More generally, needed global rebalancing has been supported by a depreciation in the currencies of most advanced economies (with the notable exceptions of commodity producers such as *Canada and Australia*) and higher real effective exchange rates in some emerging markets. This (volatile) adjustment has been interrupted in recent months as flight to safety flows in response to *Euro area* uncertainties have led to significant depreciations in some smaller advanced economies and major emerging markets (e.g., *Australia, Brazil, Mexico, India, Poland, and South Africa*) largely offset by appreciations in the yen and, to a lesser extent, the dollar.

Figure 2. Real Effective Exchange Rates:
(Jan 2007 – Jun 2012, regional REERs weighted by market GDP)



Source: IMF Information Notice System and IMF Staff Estimates

5. **Estimated external imbalances are likely to remain well above desirable levels without decisive policy actions, although which countries have current account surpluses may change.** Weak activity appears to be partially obscuring the size of imbalances. Global current account divergences in 2011 would increase somewhat if adjusted for global output gaps and an expected fall in the price of oil in line with market expectations (Figure 8). Based on April 2012 *World Economic Outlook* projections, rising *China* surpluses (as demand recovers in major advanced economies) would more than offset a fall in the surpluses of *oil producers* (as commodity prices retreat). In major deficit countries such as the *United States*, larger external deficits as a result of a

recovery would only partly offset a lower cost of oil imports. As of 2011, individual assessments find that many economies covered in this Report would have at least modest estimated external imbalances. WEO projections also suggest that expected medium-term policy changes (announced policy actions such as fiscal consolidation) are likely to have only modest effects on current account divergences out to 2017.

DRIVERS OF IMBALANCES

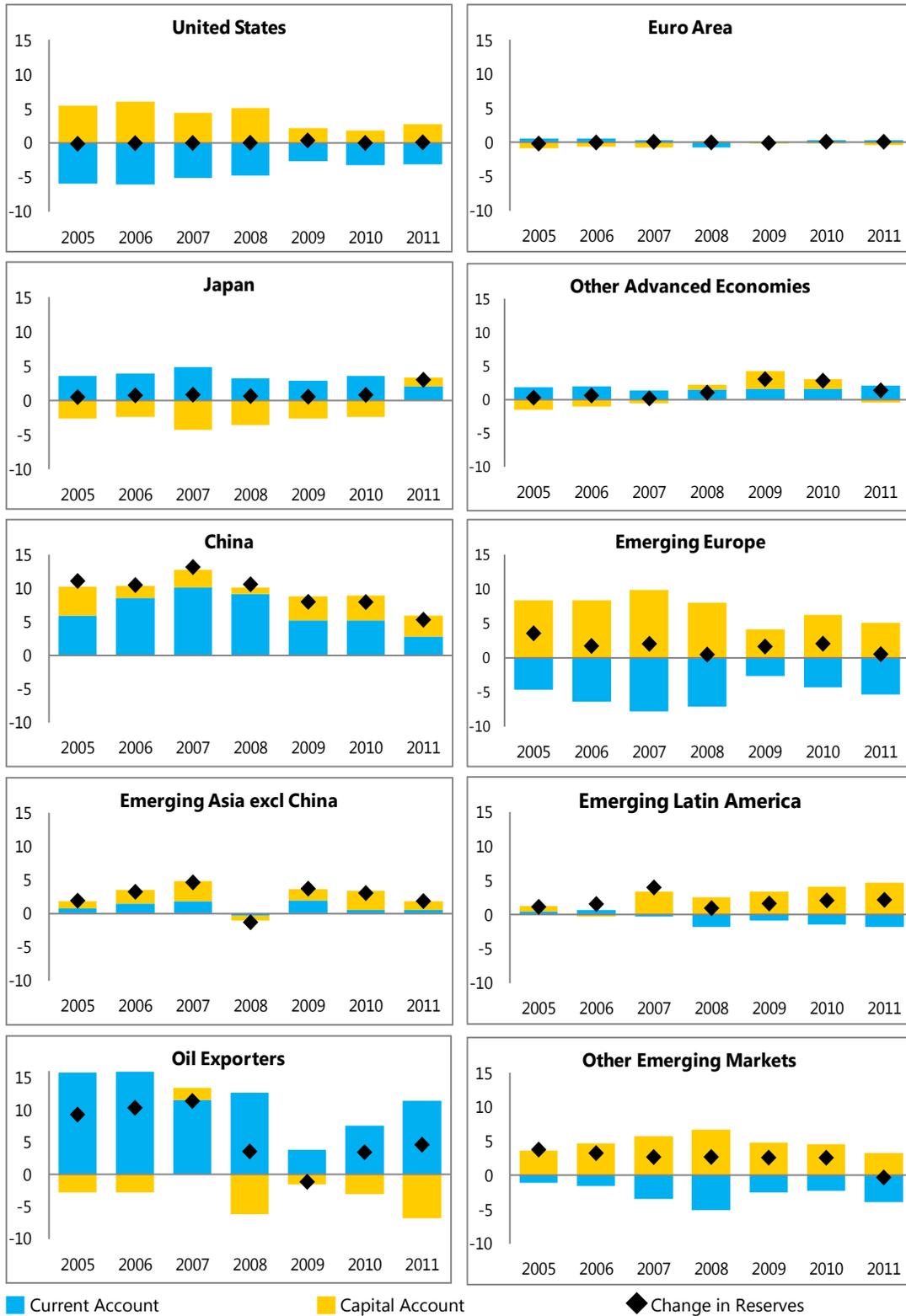
A. As well as fundamentals, current account divergences appear to reflect fiscal excesses, reserve policies, and capital flow management measures

6. **Across the major advanced economies the relative position of current accounts, exchange rates, and net capital flows appear to largely reflect different fundamentals** (see Figure 3 and Appendix IV for supporting tables and charts).² While the *United States*, the *Euro area* and *Japan* are all estimated to have somewhat weaker-than-desirable current accounts and somewhat overvalued exchange rates, primarily reflecting large fiscal deficits, differences in current accounts and exchange rates between these economies are largely in line with what would be expected given fundamentals and desirable policies. For example, *Japan* has been appropriately sending funds abroad to finance the future retirement of a significant share of its population. By contrast, the *United States*, with a younger population and better investment opportunities, is a net borrower on world financial markets. The *Euro area* is somewhere between the two extremes on all counts.

7. **The pattern of capital flows and current accounts across emerging market regions is more diverse and less easily explained by long-term fundamentals.** As might be expected given their level of development, emerging market regions have net capital inflows to the private sector (except *oil exporters* in recent years given the strength of their terms of trade). Furthermore, these inflows have been in a fairly narrow range (1–5 percent of GDP). Current account positions across regions, however, also reflect differences in policies that result in reserve accumulation. Current account surpluses in *China* and (to a lesser extent) the rest of *emerging Asia* (particularly if *India* is excluded) reflect the fact that net inflows of private capital have been more than offset by reserve accumulation. In some countries the counterpart to these external surpluses is high savings, which may be a side effect of policies to shield the financial sector from competition; in other cases it is a result of low investment. Current account deficits in *emerging Europe*, *Latin America*, and *other emerging markets* reflect more muted reserve accumulation that only partially offsets inflows by the private sector. Finally, in *oil exporters* large current account surpluses generated by high oil prices are being offset by a combination of private capital outflows and reserve accumulation.

² Forthcoming changes in the statistical approach to the balance of payments and its analytic implications are discussed in Appendix V.

Figure 3. Patterns of Current Account Balances and Capital Flows, 2005–11
(Percent of each country's or region's GDP)



Source: IMF World Economic Outlook Database
For country groupings see Appendix VI.

Box 2. Policies, Imbalance Calculations, and Individual Economy Assessments: An Example

The thought experiment. A simplified example could help clarify the concepts underlying the multilateral analysis and assessments. Consider a world comprising only two economies of the same size, one with a large current account deficit financed by issuing short-term paper that is adding to already large net international liabilities, the other with an equally large surplus. The deficit country has policy distortions characterized by an excessive fiscal deficit, output well above potential and inflated asset prices as a result of lax financial supervision. The surplus country has none of these characteristics—fiscal policies and financial supervision are appropriate and output is at potential. Now consider two different scenarios for the surplus country: 1) it has no policy distortions of its own and 2) it resists external adjustment, for example through capital controls and intervention and/or as a result of structural policies.

Multilateral imbalance calculations. The first stage in the analysis of imbalances is to calculate *cyclically-adjusted current account balances*. These would be somewhat smaller in magnitude than those actually observed, as output above potential in the deficit country leads to higher imports in the deficit country and higher exports in the surplus country. Nevertheless, after adjusting for the cycle, *excessive external imbalance* remains.

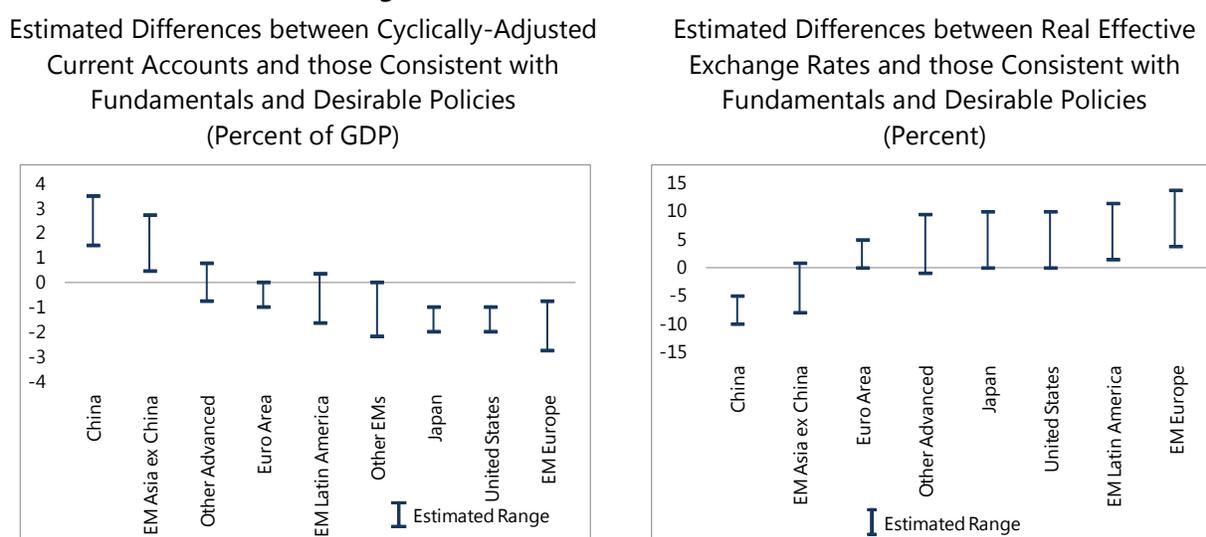
The second stage of the analysis is to adjust for policies that are out of line with *desirable policies*. In scenario 1 the only policy distortions are in the deficit country. The analysis would identify the deficit country as having a current account weaker than justified by fundamentals and desirable policies, and the surplus country as having an equal and opposite surplus. The analysis would identify this imbalance as arising from the deficit economy, reflecting its large fiscal deficit and lax financial policies. Note that the fiscal deficit is measured directly in the external balance assessment, but lax financial policies are not explicitly captured and would be identified as *other distortions* (the residual in the calculation). The deficit country's exchange rate would be overvalued and the surplus country's undervalued. If these policies were corrected, so would the imbalances. Policy adjustment in the deficit country automatically reduces the external imbalance in the surplus country.

In scenario 2, the surplus economy resists external adjustment through capital controls and intervention and/or structural policies (e.g. inadequate social protection). Imbalances are now even larger as policies in the two countries reinforce each other. As before the deficit country adjusts. However, now since the surplus economy resists an adjustment of its real exchange rate, in the deficit country the real exchange rate remains higher than warranted and tends to offset the effect on the current account of fiscal tightening. Thus *capital controls and intervention policies* (which, like fiscal policy, are directly identified in the analysis) and/or the effect of structural policies is to create imbalances by simultaneously sustaining the current account deficit in the first country and the current account surplus in the second country.

Assessments. While the estimates of the *overall external sector position*, needed *current account adjustment*, and associated *real exchange rate over/undervaluation* would be equal and opposite given there are only two economies in the world, the *individual economy assessments* would clearly identify the quite different issues and risks facing the two economies. In the case of the deficit country, the discussion of *capital flows* and *foreign asset and liability position* would note the vulnerabilities arising from international liabilities and the *possible policy response section of the overall assessment* would focus on the need to rein in the *fiscal deficit* and *limit asset price excesses*. For the surplus country, in scenario 1 the discussion would find no fault with policies. In scenario 2, however, the discussion would identify the policies that are out of line—*capital controls*, *foreign exchange intervention* and *reserves* and/or *structural policies*, would distinguish between them, and would recommend measures to rectify them. For example, discussion of the *capital account* would note the need to reduce capital controls and the discussion of *foreign exchange intervention and reserves* would note the need to end the reserve buildup and allow greater exchange rate flexibility. Discussion of structural policies would highlight scope to improve social protection.

8. **Strong external positions estimated for Germany, the Nordics, and most of Asia offset weak positions in most non-Asia emerging markets and advanced economies** (Figure 4; individual economy results are shown in Figure 5). Current accounts are estimated to be stronger than, and real effective exchange rates undervalued compared to, those consistent with estimated fundamentals and desirable policies in *Germany, Sweden* and the *Netherlands* as well as *China, Indonesia, Malaysia, Singapore, Thailand, and Korea*. These imbalances are fully offset as current accounts are estimated to be weaker than, and real effective exchange rates overvalued compared to, fundamentals and desirable policies in *Brazil, Turkey, Russia, and South Africa* as well as the *United States, Japan, the United Kingdom, Canada, Australia* and, within the Euro area, *Spain, Italy, and France*.

Figure 4. ESR Estimated External Positions



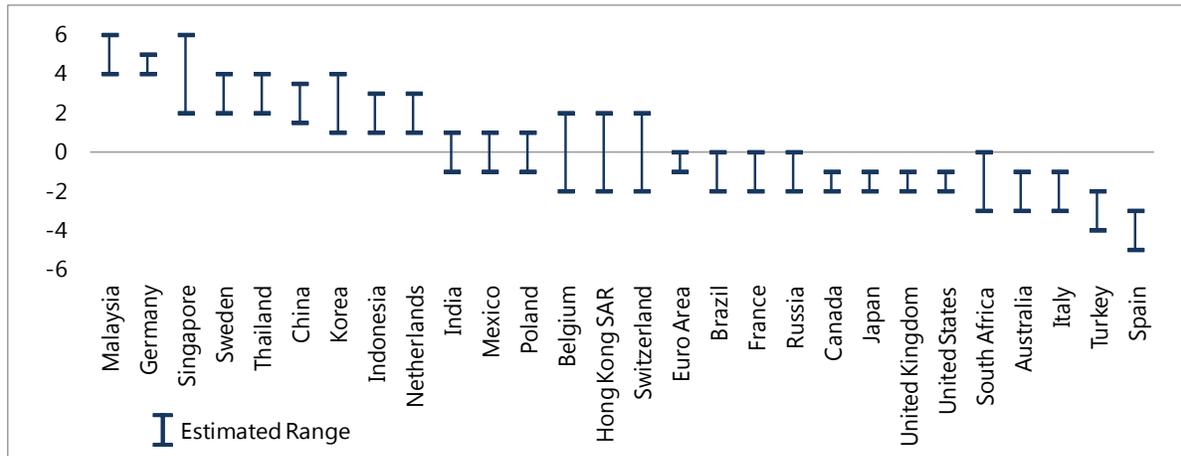
Source: IMF Staff Calculations

Note: ESR estimates reflect a range of bilateral and multilateral inputs, including those produced by individual models such as the External Balances Assessment and CGER discussed in Appendix I.

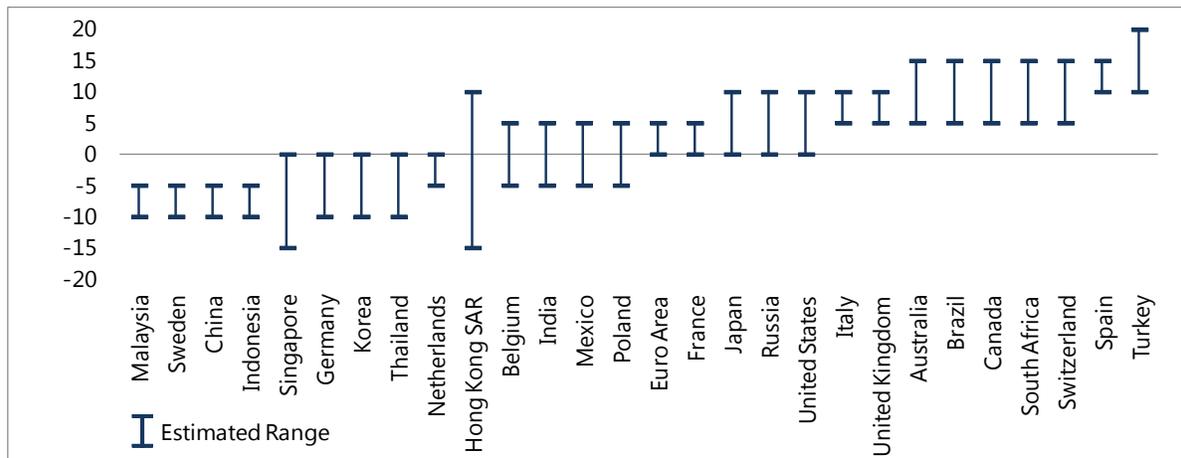
9. **Regional divergences in current account behavior can also be seen in exchange rate regimes and capital flow management measures** (Figure 6). Rapid reserve accumulation backed by supporting capital restrictions in much of *emerging Asia* and pegged exchange rates in the *Middle East* have limited nominal effective exchange rate fluctuations. In the case of *Asia*, this in part reflects incentives to limit exchange rate volatility within the supply chain, including against the hub of the system *China*. By contrast, emerging markets in most of *Latin America* and *emerging Europe* have more open capital accounts and have experienced volatile nominal effective exchange rates. Indeed, in spite of more active exchange rate policies, their exchange rate volatility has often been larger than in many *advanced economies*, possibly reflecting their shallower domestic financial markets. As discussed further below, significant differences in capital market openness across countries may also distort capital flows.

Figure 5. ESR Economies: Estimated External Positions

Estimated Differences between Cyclically-Adjusted Current Accounts
and those Consistent with Fundamentals and Desirable Policies
(Percent of GDP)



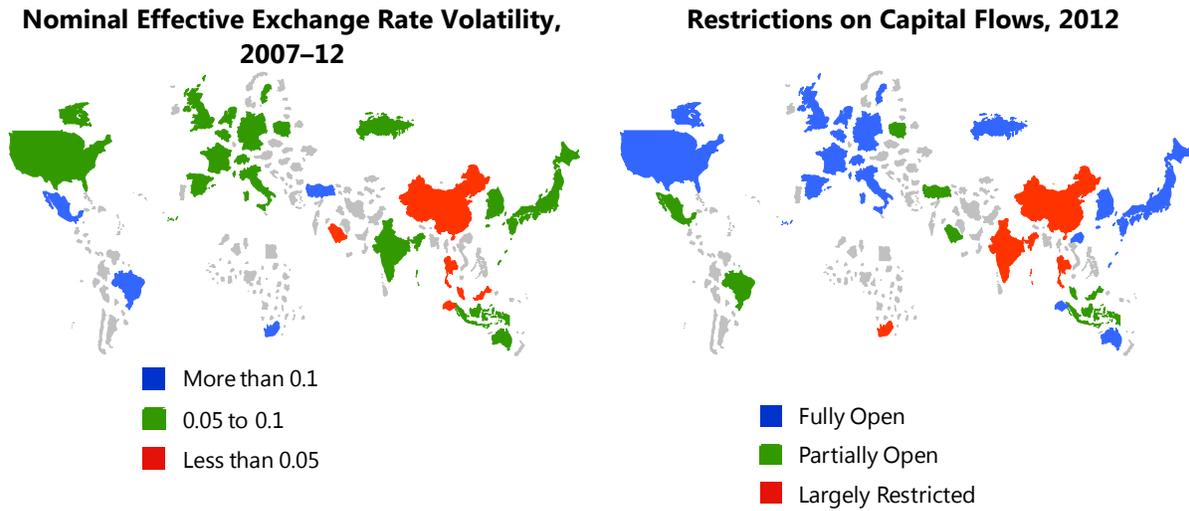
Estimated Differences between Real Effective Exchange Rate
and those Consistent with Fundamentals and Desirable Policies
(Percent)



Source: IMF Staff Calculations

Note: ESR estimates reflect a range of bilateral and multilateral inputs, including those produced by individual models such as the External Balances Assessment and CGER discussed in Appendix I. Saudi Arabia is excluded due to extremely high uncertainty surrounding its estimates.

Figure 6. Exchange Rate Volatility and Restrictions on Capital Flows
(Country size is proportional to GDP)

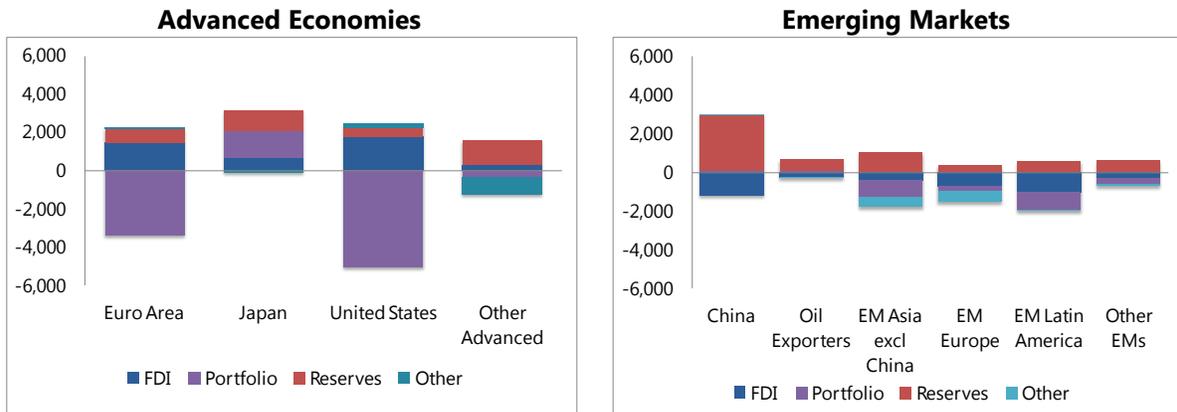


Source: IMF International Financial Statistics
Note: Volatility measured as standard deviation of monthly log returns.

Sources: *Annual Report on Exchange Arrangements and Exchange Restrictions* and staff calculations.
Note: Based on staff's broad de jure restrictiveness index.

10. **The persistence of current account surpluses in some emerging market regions and deficits in other regions is apparent in net international investment positions** (Figure 7). The private sector is a net debtor in all emerging market regions. However, *China's* overall net investment position is in surplus as *these* private sector debts are more than offset by reserve holdings. At the opposite end of the spectrum, *Latin America* and *emerging Europe* continue to have significant debts even once reserves are included in the calculation. Elsewhere, the net international investment position of the private sector and reserve holdings largely offset each other. The main counterpart to large reserve holdings in many emerging markets is substantial net portfolio debts in the *United States* and in the *Euro area*.

Figure 7. Net International Investment Positions of Selected Regions, 2010
(Billions of US dollars)



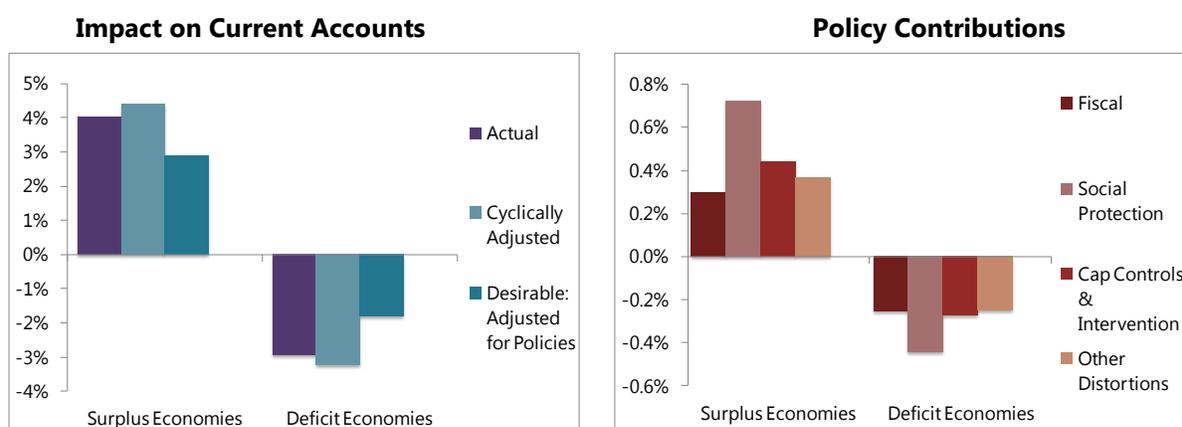
Source: IMF International Financial Statistics

11. **The outcome has been that in some cases capital has flowed substantially uphill from poorer emerging economies to richer advanced economies.** Such a pattern appears difficult to justify from the point of view of fundamentals and desirable policies and hence the appropriate allocation of global saving, investment, and capital. In addition, given reserves largely comprise liquid short-term paper, the buildup of reserves has created a high demand for debt securities even as increased fiscal deficits in the major advanced economies provided a ready supply.

B. Moving current accounts toward fundamentals likely implies ambitious medium-term policies and significant real exchange rate realignments

12. **Ambitious further policy changes are likely needed to move current accounts to the levels implied by fundamentals and desirable policies** (Figure 8; individual economy results are reported in Figures 9 and 10). Major efforts appear needed in most countries to reduce the remaining policy distortions. Analysis based on the new External Balance Assessment developed by IMF staff (described in Appendix I) finds that fiscal adjustment in deficit countries (of the order of 4 percent of GDP on average)—and continued strengthening of financial sector regulation—can play a significant role in reducing estimated imbalances. However, an even larger role appears to be played by structural policies. For example, more flexible product and labor markets, changing social protection to reduce precautionary saving, and, in some cases, reducing foreign exchange intervention (and removing capital flow management measures that are not warranted in an overall policy mix for macroprudential purposes) could shrink estimated external imbalances. Planning for these ambitious policy changes should occur now, even if implementation will be gradual.

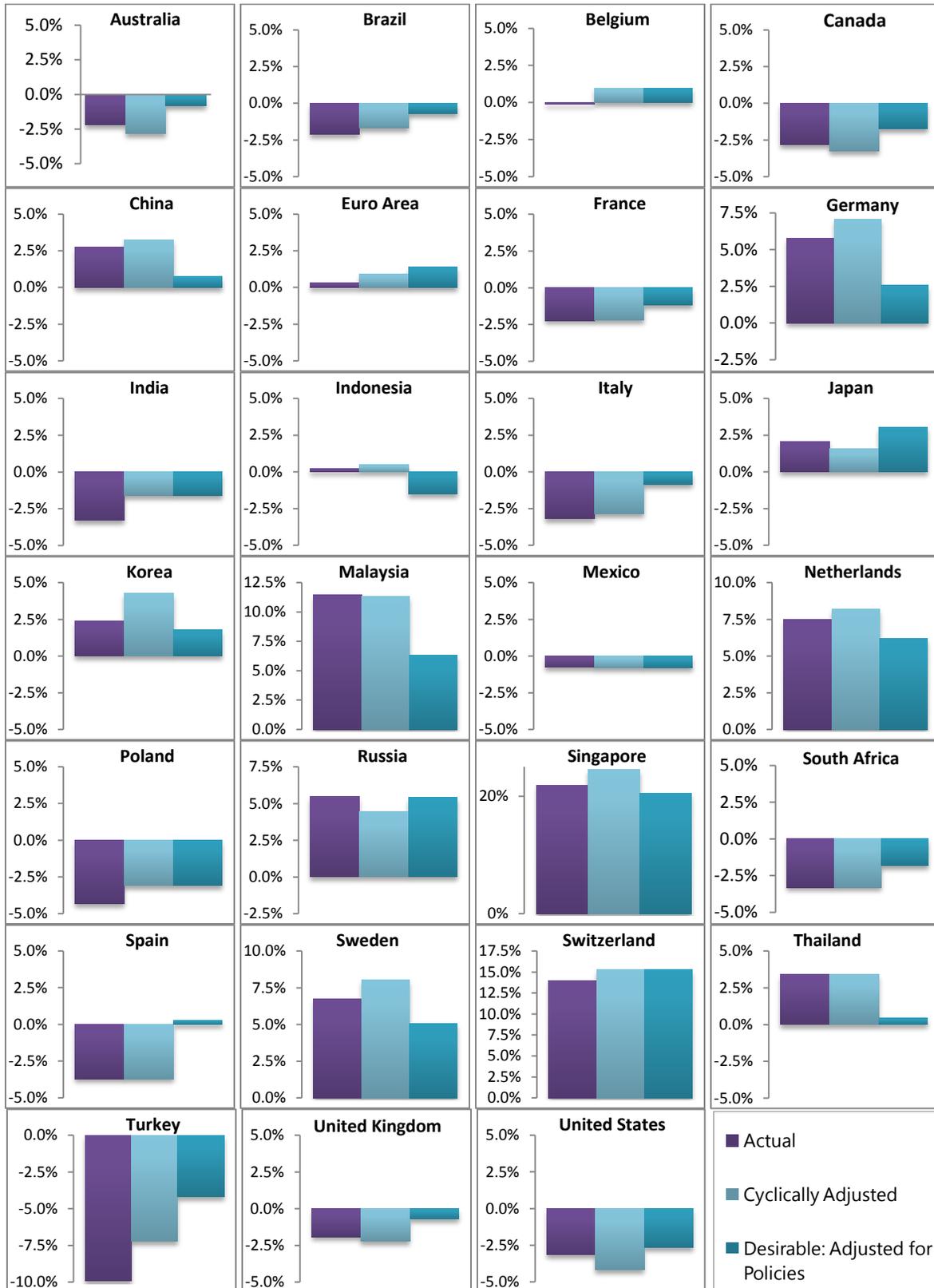
**Figure 8. ESR Economies:
Estimated Impact of Cyclical Factors and Policies on Current Accounts¹, 2011**
(Percent of surplus or deficit countries' GDP, based on mid-points of staff estimates)



Source: IMF Staff Calculations from the External Balance Assessment and desk judgment

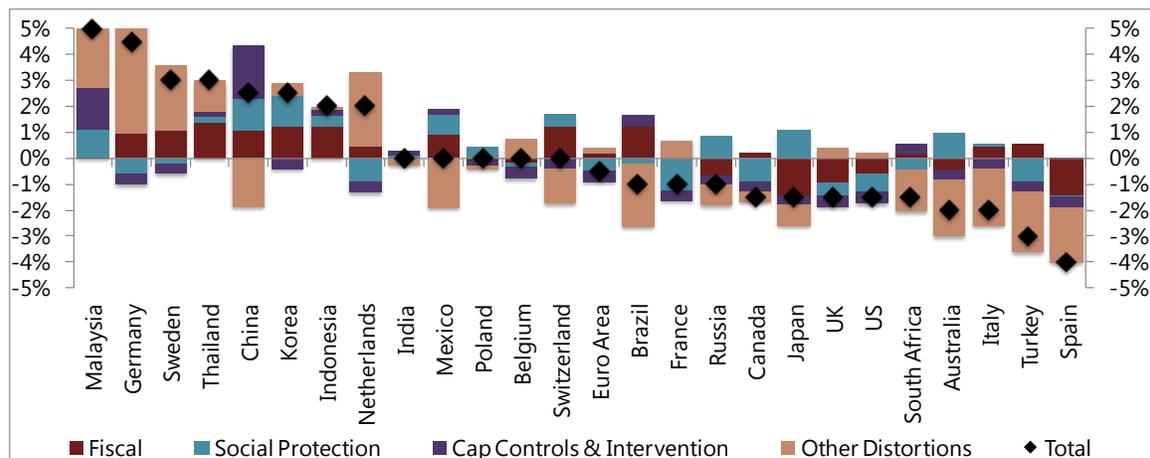
¹ *Cyclically-Adjusted* accounts for output gaps and anticipated terms of trade changes. *Desirable: Adjusted for Policies* indicates the mid-point of the estimated level of the cyclically-adjusted current account that would result if each country's policies were set at desirable levels based on staff's assessment. *Policy contributions* are estimates from the External Balance Assessment of how much deviations from desirable policies contribute to the group's current account balance. For example, for countries with current account deficits, deviations of fiscal balances from the desirable level are estimated to lower the group current account balance by 0.3 percent of group GDP. Policies are measured as deviations from the global mean. The sample covers 26 of 28 ESR economies. Hong Kong SAR and Saudi Arabia are excluded as they are not in the External Balance Assessment.

Figure 9. Individual ESR Economies: Impact of Cyclical Factors & Policies on 2011 Current Accounts



Source and Notes: See Figure 8. Based on IMF Staff Estimates

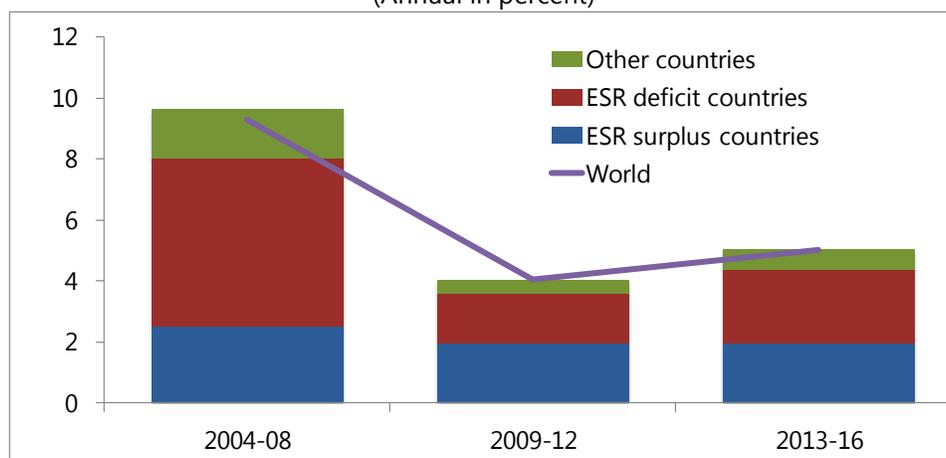
Figure 10. Individual ESR Economies: Contribution of Policies to Current Account Gaps, 2011
(Percent of GDP, based on mid-point of staff estimates)



Source and Notes: See Figure 8

13. **Lowering external imbalances is likely to imply appreciations of exchange rates in surplus economies relative to deficit ones.** Since the start of the crisis, global adjustment to current account divergences has followed a typically lopsided pattern, with consumption falling rapidly in deficit countries in response to asset price falls but with little corresponding boost in consumption in surplus countries (Figure 11). This has resulted in a large global output gap and smaller observed current account divergences, but little change in underlying distortions and the associated external imbalances. With fiscal consolidation and private sector debt retrenchment likely to continue to slow the recovery of consumption in major deficit economies, it will be important for surplus countries to embrace market signals that would support domestic and global demand. One such market signal would be upward pressure on many surplus economies' exchange rates that supports a rebalancing of global consumption patterns.

Figure 11. Contributions to Global Consumption Growth
(Annual in percent)



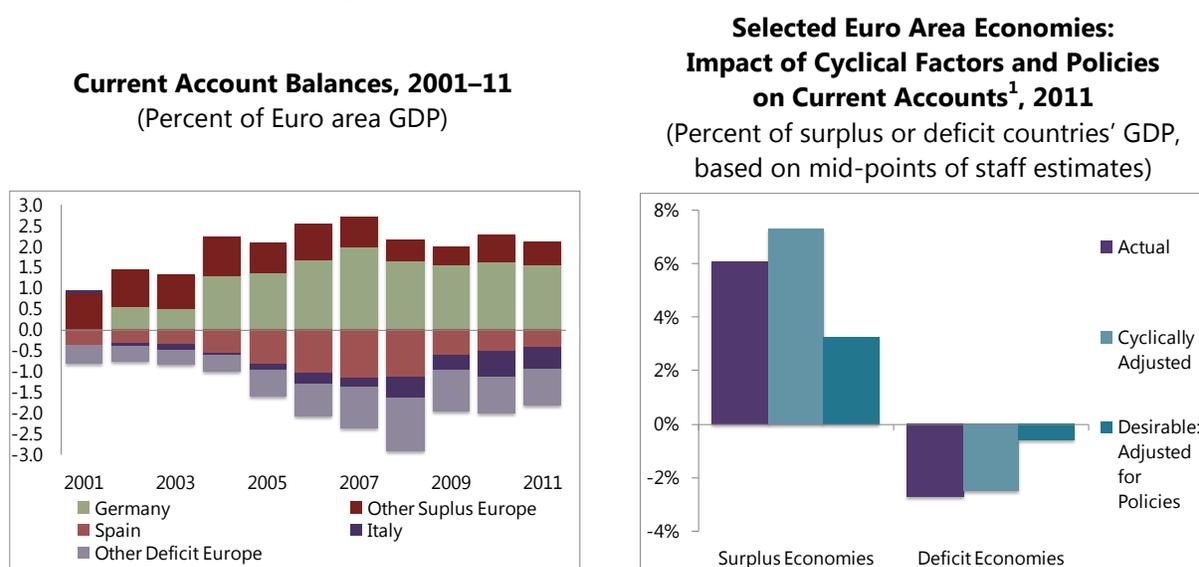
Source: IMF World Economic Outlook Database

Note: Consumption growth rates are based on consumption in current, nominal US dollars terms.

C. Major external rebalancing is also needed within the Euro area, where an orderly adjustment process will likely take time

14. The *Euro area* experienced growing current account divergences after its formation in 1999 that peaked at a similar ratio to regional GDP as global divergences did to global GDP (Figure 12). The region-wide current account fluctuated in a relatively narrow band around zero but this aggregate figure masked growing internal imbalances. Excessive compression of interest rate spreads across the union created unsustainable booms in the periphery as real interest rates fell, with the associated lending boom significantly financed by massive net flows from the core. In total, current account deficits of some countries (including *Spain* and, to a lesser extent, *Italy*) and surpluses of others (such as *Germany* and the *Netherlands*) peaked before the crisis at close to 3 percent of Euro area GDP. These divergences were also evident in the increasingly stretched gross and net external stock positions of periphery economies. As in the rest of the world, there has been some compression of these divergences after the crisis as deficit countries fell into deep recessions involving sharp import compression while surplus countries bounced back much faster from the initial global shock, but imbalances remain large.

Figure 12. Current Accounts in the Euro Area



Source: IMF, World Economic Outlook Database

Source: IMF Staff Calculations

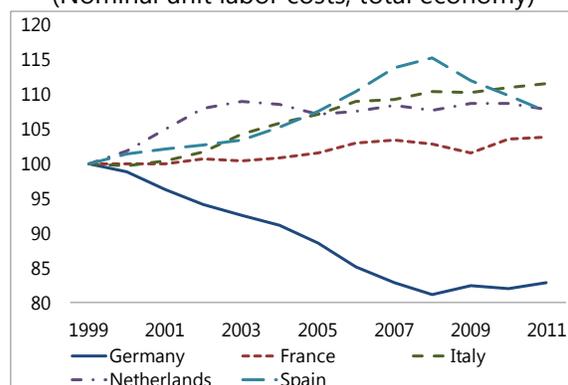
¹ *Cyclically-Adjusted* accounts for output gaps and anticipated terms of trade changes. *Desirable: Adjusted for Policies* indicates the level of the cyclically adjusted current account balance assuming each country's policies are set at desirable levels based on the External Balances Assessment/staff's assessment. Six Euro area members (Belgium, France, Germany, Italy, the Netherlands, and Spain) are included.

15. **An orderly adjustment process within the Euro area is likely to be prolonged and costly for output given the absence of an exchange rate channel for adjustment.** An important aspect of growing Euro area current account divergences was persistent inflation and productivity differentials across countries (Figure 13). *Germany*, in particular, has seen its unit labor costs fall by almost 20 percent against the rest of the union since 1999, as competitiveness lost after unification in the early 1990s recovered slowly. Many other Euro area economies experienced demand booms.

Reversing this trend in an orderly fashion will require a long period of lower inflation, slower growth of output, lower wage growth, and higher relative productivity increases in the periphery even assuming supporting policies, especially as trade across members of a currency union is likely more sensitive to relative prices than trade with countries outside of the union (see IMF Working Paper [Euro Area Export Performance and Competitiveness](#)). The adjustment also implies that surplus countries would need to run relatively higher inflation within the monetary union for some time.

16. **As elsewhere, moving fiscal policies to their appropriate levels will help rebalance demand within the currency union, but structural policies also need to play a leading role.** Narrowing the gap in structural fiscal deficits between deficit and surplus countries would help close external imbalances. Structural reforms to improve the efficiency of labor and product markets will, however, also be crucial to improve wage and inflation dynamics, make peripheral countries more competitive over time, and raise growth. As in the rest of the world, the transition will only occur smoothly if structural improvements in deficit countries are complemented by a commitment in surplus countries to foster domestic demand by allowing asset prices to fully respond to market signals as well as by pursuing deregulation in the service sector.

Figure 13. Unit Labor Costs in Selected Euro Area Economies, 1999–2011
(Nominal unit labor costs, total economy)



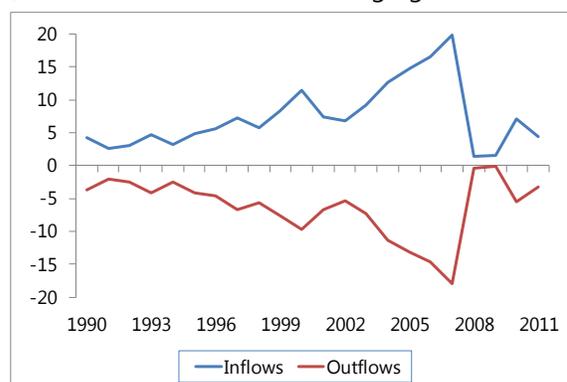
Source: European Commission

FINANCIAL RISKS

A. Current account divergences are overlaid by volatile capital flows driven by “push” factors such as easy money and volatile perceptions of risk

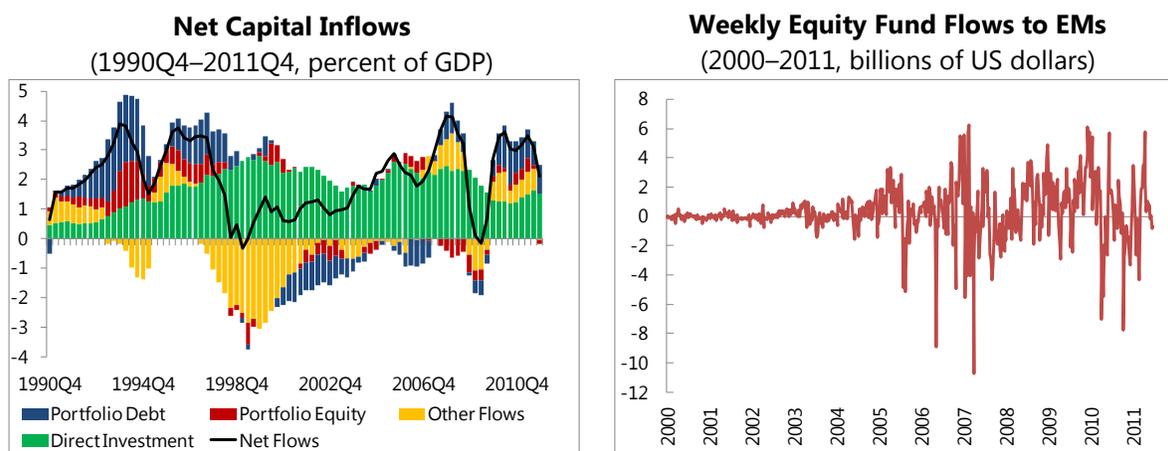
17. **Volatile capital flows resulting from rapidly evolving perceptions about financial risks in core advanced economies could be creating vulnerabilities.** In the wake of the Lehman Brother’s collapse gross cross-border capital flows came to a sudden stop—dropping by around 15 percent of advanced and emerging market GDP and providing a key conduit for spillovers to the rest of the world (Figure 14). Continued financial instability in core advanced economies reflecting weak banks, high debt levels, slow recoveries and policy indecision continue to dampen the desire to invest in these core markets despite generous liquidity provision.

Figure 14.
Gross Capital Flows to Advanced Economies and Emerging Markets
(Percent of advanced and emerging market GDP)



Source: IMF, World Economic Outlook Database

18. **The flipside of poor advanced economy prospects and easy money in the US, UK, Japan, and Euro area has been plentiful but volatile capital flows to the emerging markets.** Instability in core markets has increased the attractiveness of investing in emerging markets with better growth prospects, higher interest rates, and relatively stable financial systems. After peaking at some 4 percent of emerging market GDP before the crisis, net emerging market inflows excluding reserve accumulation experienced a spectacular sudden stop. This was followed by an equally rapid surge back close to levels seen before the crisis in 2007, before tailing off again recently (Figure 15). Gross flows show a similar pattern. Although outflows from emerging markets have been small and relatively stable, inflows have come with unusually high market volatility. This occurred against a background of investor uncertainty about the stability of major markets combined with ample liquidity and low funding costs. Expansionary monetary policy in the *United States* and elsewhere is central to reducing the scale of the domestic credit crunch and risks of a prolonged global slump. However, part of the additional liquidity leaks abroad and causes a negative spillover of risk-on/risk-off capital flows as investors switch rapidly into or out of a swathe of riskier assets, including emerging market paper thus amplifying the fluctuation in emerging market capital flows (see [Recent Experiences in Managing Capital Inflows](#), February 14, 2011, and [The Multilateral Aspects of Policies Affecting Capital Flows](#), October 13, 2011). Indeed, providing incentives to invest in riskier assets, domestic but also foreign, is an important channel through which this expansionary monetary policy operates.

Figure 15. Composition and Volatility of Capital Flows to Emerging Markets

Source: IMF International Financial Statistics

Source: EPFR Global

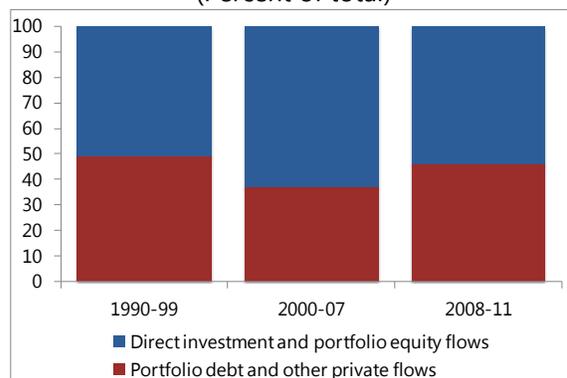
19. **The macroeconomic impact and policy dilemmas from recent capital market instability are felt most keenly in smaller markets.** Four-fifths of capital flows involve transactions between the major advanced economies. However, deep capital markets and large and stable investor bases generally limit the macroeconomic effects of changes in sentiment. Thus, the main impact of volatile flows is on emerging market economies that have shallower markets, smaller dedicated investor bases, less flexible exchange rates, and higher ratios of foreign ownership. Differences in capital market access across major emerging markets further complicate the situation by potentially increasing flows to those with relatively open markets. Hence, while often directed to countries with sound fundamentals and growth prospects, the scale of capital inflows can pose substantial macroeconomic policy challenges that require a wide range of policy tools (including, in some cases, capital flow management measures).

20. **Portfolio diversification, carry trades, and safe haven inflows appear to have also materially affected financial conditions in some advanced countries.** Advanced commodity producers with strong growth prospects and higher interest rates such as *Australia* and *Canada*, that have experienced inflows for the similar reasons as emerging markets, have allowed their currencies to appreciate. Those facing primarily safe haven flows, such as *Japan* and, in particular, *Switzerland* have taken more direct actions. *Japan* has chosen to intervene on occasion to lower short-term volatility. In *Switzerland*, after a very sharp appreciation of the exchange rate, with inflation turning negative, and faced by massive inflows, rapidly rising reserves driven by concerns about *Euro area* financial stability, the exchange rate policy was switched from a floating regime to a one-sided peg—intervening to prevent the exchange rate from appreciating above €1.20. The credibility of the peg has reduced the need for intervention, and the external position appears broadly consistent with underlying fundamentals and desired policies.

21. **Vulnerabilities from recent inflows to emerging and smaller advanced markets have been boosted by an increase in the role of more problematic debt-creating bond purchases and bank loans.** Bond market inflows to emerging markets have rebounded to record levels as low bond yields in advanced markets have prompted fixed income investors to move up the risk curve.

Net “other” inflows (dominated by bank loans) reversed and turned positive after the crisis—before falling again in late 2011 as Euro area banks deleveraged. This increase in bond inflows and the resumption of net bank inflows represents a shift away from the historical trend of a declining share of such “debt-creating” flows going to emerging markets (Figure 16). The growing share of debt-creating flows exacerbates possible future vulnerabilities in some emerging and advanced markets as credit booms backed by cheap foreign money could be followed by sharp asset price corrections. Particularly in a world of volatile investor sentiment, this could lead to sudden stops in foreign inflows with significant spillovers to other economies. Record inflows into Latin America and China appear to reflect market views of their relative attractiveness—in other words “pull” factors.

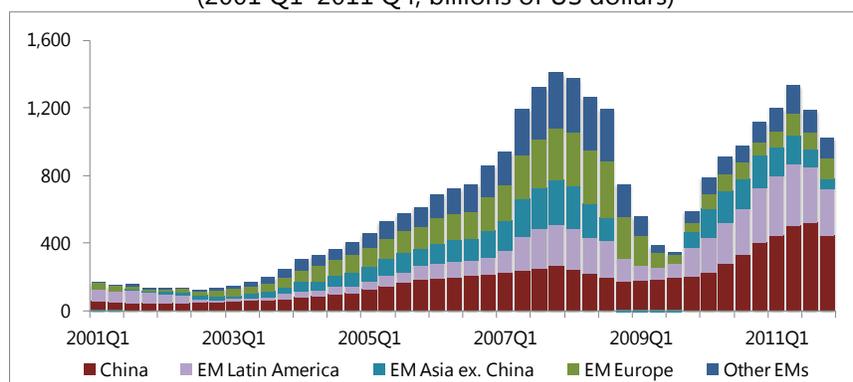
Figure 16. The Relative Importance of Various Types of Flows to Emerging Markets
(Percent of total)



Source: IMF International Financial Statistics

22. **Gross inflows into Latin America and China have reached record ratios to GDP while inflows to central and Eastern Europe remain depressed compared to the pre-crisis surge** (Figure 17). Just as outflows to emerging markets are dominated by a few large advanced country financial centers, inflows tend to cluster around a limited number of destinations—*Brazil, China, India, Mexico* and *Turkey* accounted for about 90 percent of net flows to emerging markets in 2010–11. The size of overall capital flows largely reflects “push” factors, but the choice of destination generally reflects country differences, in other words “pull” factors. While surges in capital flows often support balanced and healthy development, past history suggests a need for vigilance as such flows have been associated with unsustainable credit booms.

Figure 17. Destination of Gross Capital Flows to Emerging Markets
(2001 Q1–2011 Q4, billions of US dollars)



Source: IMF International Financial Statistics

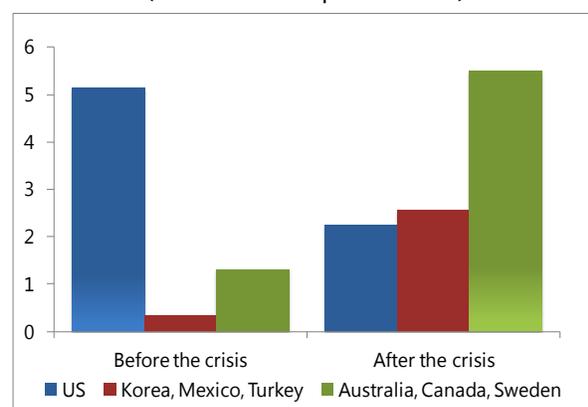
23. **Latin America and China are now preeminent recipients of post crisis flows—their share of gross inflows having more than doubled relative to the pre-crisis surge.** *Latin American* inflows are at a record as relatively open capital markets and high commodity prices have attracted global investors. *China* (whose GDP is already double *Brazil's* and *Mexico's* combined and rising faster) now receives about one-third of global flows to emerging markets. This reflects surging foreign direct investment and bank inflows as financial tightening on the mainland has increased incentives to finance trade through loans from *Hong Kong* (until recent deleveraging by foreign banks). By contrast, inflows into *central and eastern Europe* are only half the value seen at the end of the boom. *Russia* has experienced capital outflows since 2008 reflecting political uncertainty, the weak investment climate, and changes in global risk aversion. In other regions, current flows are similar to those seen in the pre-crisis surge.

B. The composition of inflows to countries apparently reflects financial displacement, investor incentives, and shifts within the Asian supply chain

24. **Debt inflows show signs of diversion from the United States and the United Kingdom to smaller markets**

(Figure 18). Foreign debt inflows into the *United States* and *United Kingdom* fell abruptly during the crisis and have shown only limited signs of recovery. Securitization markets remain depressed and quantitative easing has provided a new domestic source of demand. The fall in *US* and *UK* debt inflows has been accompanied by a rise in inflows to *US* neighbors *Canada* and *Mexico*, as well as a range of other advanced and emerging markets with relatively open capital markets (*Australia*, *Sweden*, *Korea* and *Turkey*), helping to push up their exchange rates.

Figure 18. Net Debt Flows, Selected Countries
(Percent of recipients' GDP)

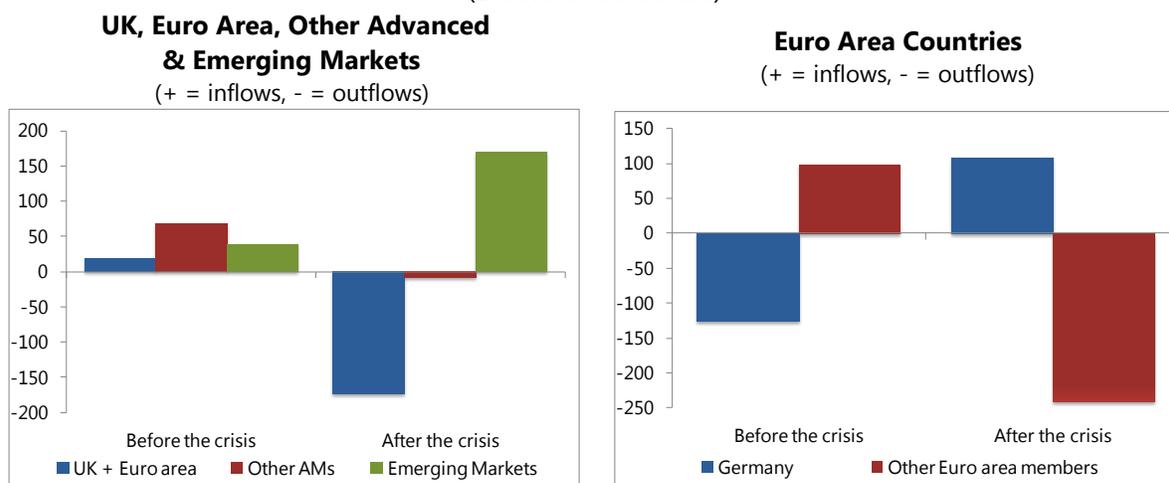


Source: IMF International Financial Statistics

Note: Before the crisis = 2003-06, After the crisis = 2010-11.

25. **Bank flows also appear to have been diverted from the United Kingdom and Euro area to the rest of the world** (Figure 19). The counterparts to post-crisis outflows from the *United Kingdom* and *Euro area* again appear to be largely the other advanced economies and emerging markets with relatively open capital accounts mentioned above. This creates the potential for future instability if *Euro area* banks repatriate funds, as happened in late 2011. Within the *Euro area*, the reluctance of private investors to fund some governments and banks has resulted in major outflows of foreign private capital from the periphery, substituted by ECB liquidity provided through temporary repurchase agreements. This has resulted in large imbalances within the ECB's Target 2 clearing system, with credits to *Germany* offset by large liabilities to peripheral countries' banks. This illustrates the fragility of *Euro area* financing and emphasizes the continuing importance of official funding for the stability of the union.

Figure 19. Net Bank Flows, 2000–2011
(Billions of US dollars)



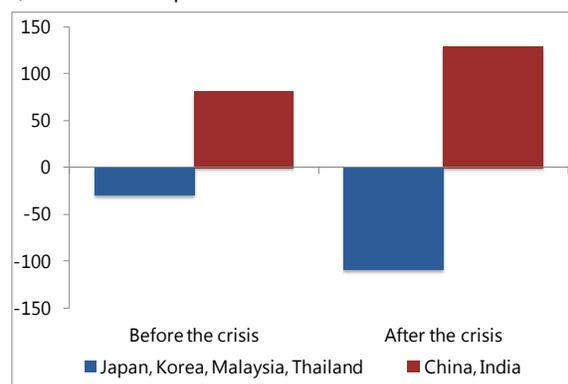
Source: IMF International Financial Statistics

Note: Before the crisis = 2003–06, After the crisis = 2010–11.

26. Another striking feature of the last few years has been the flow of foreign direct investment from richer to poorer countries in the Asian supply chain

(Figure 20). Foreign direct investment inflows have risen in *China* and *India* even as there have been increasing net foreign direct investment outflows from *Japan*, *Korea*, *Malaysia*, and *Thailand* (in the latter two countries, net foreign direct investment inflows have turned from positive in 2005 to negative now). This suggests that capital is flowing from middle and high income Asian economies to the perceived new power houses within the Asian supply chain which also benefit from locations close to the largest sources of demand.

Figure 20.
Net FDI Inflows, Selected Countries
(Percent of recipients' GDP, + = inflows, - = outflows)



Source: International Monetary Statistics.

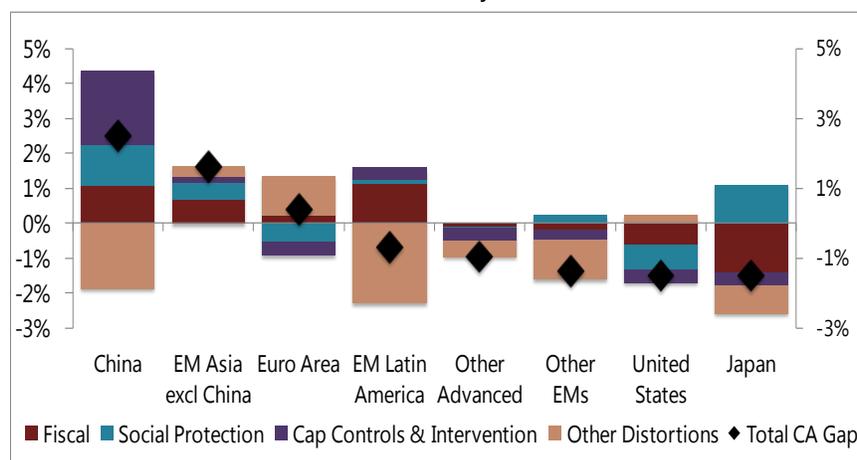
Note: Before the crisis = 2003–06, After the crisis = 2010–11.

POLICY ISSUES

27. Policy actions—including fiscal adjustment and structural reforms—can alter the global constellation of external positions and help to reduce external imbalances (Figure 21). Fiscal consolidation in many advanced economies will not only strengthen their own current accounts but will also reduce current account divergences in countries with large surpluses. In some emerging markets, reserves already appear adequate and greater exchange rate and macroeconomic flexibility would be appropriate. And across many economies further structural reforms are likely to be the most important factor in moving external imbalances toward fundamentals. Like fiscal consolidation, structural reforms will take time to implement and produce

results. For example, further progress in the *Euro area* economies on labor and product market flexibility will be crucial to restoring competitiveness particularly in the periphery. Although difficult to quantify, in many advanced economies strengthening financial regulation and supervision with cross-border coordination would also help address imbalances. Similarly, changes in structural policies (including social protection) in *China* and a shift to greater exchange rate flexibility could have significant effects on other members of the Asian supply chain.

Figure 21. Policy Contributions to the Total Current Account Gap by Region
(Percent of GDP, ordered by total contribution)



Source: IMF Staff Calculations

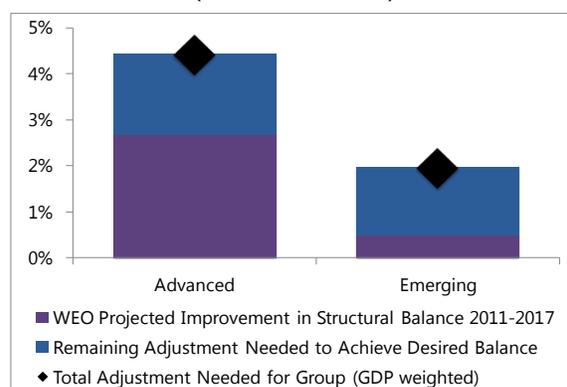
A. Large fiscal consolidations in many major advanced economies will help drive current accounts lower elsewhere

28. **The large fiscal policy consolidations that are desirable in most major advanced economies and regions will likely have significant global consequences.** What

matters for medium-term external imbalances is the relative adjustment of structural fiscal balances (Figure 22). The *United States*, *Japan*, the *Euro area*, and the *United Kingdom* represent well over half of world nominal output. An improvement in their current accounts, as fiscal consolidation boosts national saving, will inevitably be offset by lower current account balances in countries that appropriately implement more modest fiscal consolidation. Fiscal policy is thus an area where the adjustment of current accounts in some

countries may arise primarily from policy changes elsewhere in major advanced economies. As these adjustments should occur gradually over time—due to the size of the consolidation and concerns over global demand—the rest of the world can probably absorb these spillovers relatively smoothly.

Figure 22. Enhanced Desired Fiscal Adjustment
(Percent of GDP)



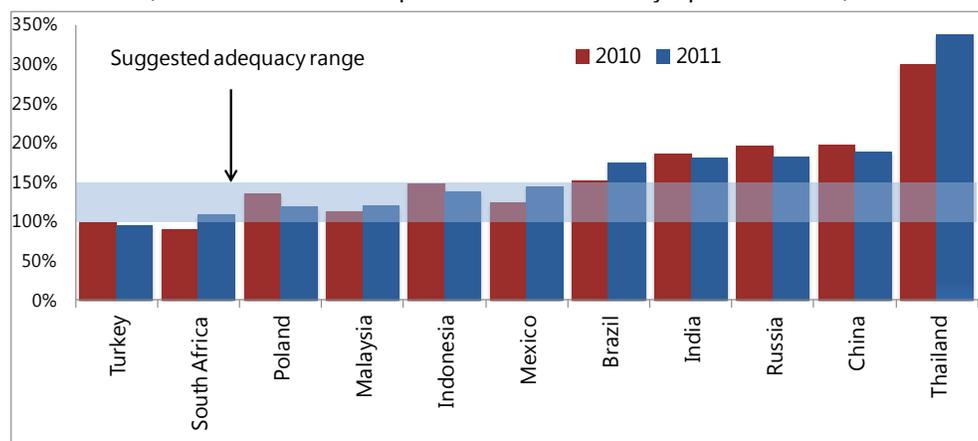
Source: IMF International Financial Statistics and IMF Staff Calculations

29. **Fiscal policies will likely also play a significant role in reducing external imbalances in the Euro area.** Current plans appropriately involve larger medium-term consolidations in countries with external deficits than in those with external surpluses. Surplus countries could help support demand in the *Euro area* as a whole through a slower pace of fiscal consolidation. In the *Euro area* the gradual adjustment process partly reflects the need for changes in competitiveness within the union to offset the dampening effects on domestic demand of major consolidation in deficit countries and avoid a prolonged regional slump. This will require other macro policies that support demand and raise investment. These are: a period of wage adjustment, labor and product market reform in deficit countries, surplus countries running relatively higher inflation for some time, and financial reforms in the euro zone geared towards developing an effective financial stability framework.

B. Reserves in many emerging markets seem adequate and more monetary and exchange rate flexibility is likely appropriate

30. **In many emerging markets reserve levels appear more than adequate for precautionary purposes, and one-way intervention should likely end.** The interplay between expansionary monetary policy in major advanced countries and responses elsewhere will help determine current accounts in the short term. With the *United States* and other major advanced economies likely to maintain—and possibly expand—monetary easing, financial conditions are likely to remain choppy for the rest of the world. Responses to the latest surge and volatility in capital inflows have varied, with *emerging Asia* most prone to using intervention and relying in some cases on longstanding capital flow management measures (as has been the pattern since the Asia crisis), followed by *Latin America*. In many ESR economies reserves are now either above, or at the upper end of, the Fund’s country-specific metric (Figure 23 and Appendix III) and one-way intervention should be replaced by greater exchange rate flexibility combined, if appropriate, with some two-way intervention to smooth currency fluctuations.

Figure 23. Estimated Reserve Adequacy¹
(Official reserves as a percent of IMF country-specific metric)

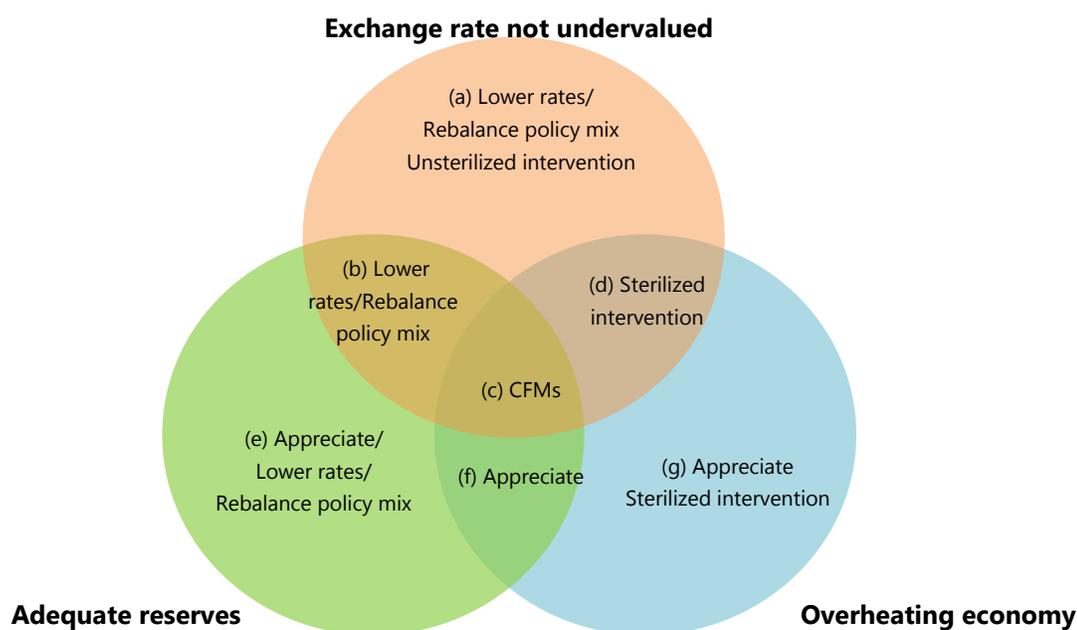


Source: IMF International Financial Statistics and IMF Staff Calculations

¹ See also IMF Policy Paper, [Assessing Reserve Adequacy](#), February 14, 2011.

31. **There is considerable scope to use macroeconomic policies, including exchange rate flexibility, in response to choppy capital inflows.** To manage capital inflows with open capital markets, policies should take into account a country's cyclical position, exchange rate valuation, and reserves adequacy (Figure 24). While assessments of macroeconomic criteria need to be made with care, at the current juncture many emerging markets appear to have adequate reserves, exchange rates that are not clearly overvalued, and few signs of overheating—placing most countries in sections a, b and e of Figure 24. This suggests that economies should generally use monetary policy and exchange rate flexibility to help manage capital flows. This should be supported by appropriate medium-term fiscal plans to bring policies to desirable levels. Capital flow measures (and also prudential measures in response to domestic financial risks) can be appropriate in some circumstances as part of a toolkit to tackle volatile capital flows but they should not be a substitute for appropriate adjustment in macroeconomic policies.

Figure 24: Coping with Capital Inflows: Policy Considerations



Source: IMF Policy Paper, [Recent Experiences in Managing Capital Inflows—Cross-Cutting Themes and Possible Guidelines](#), February 15 2011

Note: Each circle represents cases where the relevant condition is met.

C. Adjustments to structural policies are likely to be the most important element in reducing vulnerabilities from external imbalances

32. **Adjustments in social protection policies appear to have an appropriate role in lowering vulnerabilities from global external imbalances.** Limited social protection seems to be an important driver of precautionary saving by households, and hence of national saving. After adjusting for levels of development and demographic trends, countries with lower social protection (proxied by spending on public health care) tend to have significantly larger external surpluses than those with higher protection. For some countries the level of social protection reflects a choice about the allocation between public and private provision. However, particularly for some major surplus countries, improving the level of social protection over the medium term is an important policy priority as policy makers recognize the benefits that social insurance can provide for their citizens. The resulting reduction in precautionary household saving could have the side benefit of lowering global imbalances.

33. **Carefully loosening capital account restrictions over time can also play a role in reducing external imbalances.** Such changes should be accompanied by a strengthening of global financial regulation, a process already underway, and by deepening local financial markets. The reasons for introducing barriers to the free flow of capital vary from country to country and the medium-term impact cannot be assessed with any certainty. Depending on country circumstances, measures that limit capital flows may tend raise or lower domestic investment over time and lifting them can lead to higher or lower current accounts. But a careful reduction in such barriers accompanied by appropriate supervision, regulation, and financial deepening should unambiguously improve the allocation of global saving and lower potential vulnerabilities, including those created by major differences in levels of financial market access across economies.

34. **Other policy distortions help to explain unsustainably large external surpluses and deficits.** In some economies, staff has identified the need for comprehensive labor and product market improvements to boost productivity (e.g., the *Euro area periphery*). Elsewhere, staff has identified weaknesses in the investment environment (e.g., in parts of *Southeast Asia*) or subsidies to factor inputs (e.g., *China*) as contributing to large surpluses. In many ways the *Euro area* provides an example of the perils of ignoring these less easily quantified policies in creating vulnerabilities. While the confidence inspired by the adoption of the single currency reduced real interest rates in peripheral countries, the resulting booms were not accompanied by equivalent improvements in product and labor market flexibility (or financial supervision) that could have helped to avoid many of the excesses that transpired. The resulting external imbalances moved well in excess of those justified by fundamentals, and the latent vulnerabilities eventually erupted into a crisis with continuing global consequences.

APPENDIXES

Appendix I. EBA Methodologies

Overview

1. The External Balance Assessment (EBA) methodology is being developed by the Research Department as a proposed successor to the CGER exercise. EBA revamps rather than discards its predecessor, building upon the base of CGER.
2. EBA comprises three methods, each based on its corresponding CGER predecessor.¹ Thus the first two EBA methods are panel regression-based, while the third method is model-free and focused on sustainability analysis. EBA however brings important differences relative to CGER, particularly in the two regression-based methods.
3. The most fundamental innovation is that EBA makes a sharper distinction between positive (descriptive) understanding of current accounts and real exchange rates and making normative evaluations. Along the way, EBA takes into account a much broader set of factors—and policies—that may influence the current account and real exchange rate.
4. This is done by distinguishing two stages of the regression-based methods:
 - The first stage is positive (descriptive), and focused on *understanding* current account and real exchange rate developments, via the estimation of panel regressions.
 - The second stage provides estimates that are more suitable for a *normative evaluation* of current accounts and real exchange rates. The second stage thus goes further, drawing on information from the regression results to estimate the contributions of several “*policy gaps*” to current accounts and real exchange rates.

EBA’s regression-based approaches

5. EBA’s two regression-based approaches are developed in parallel; essential to the theoretical framework that underlies both is that most factors that would influence the current account would also influence the real exchange rate. For example, a factor that pushed downward the saving rate of a country, and thereby boosted its domestic demand, would result in both a decline of the current account balance and an appreciation of the real exchange rate.

The objective and outputs of these two approaches:

- The *current account regression-based approach* produces *Total CA Gaps*. These gaps are the sum of the estimated contributions of several *policy gaps* and the regression residual. The

¹ This Annex presumes a basic familiarity with the approach of CGER (Consultative Group on Exchange Rates). For full details of CGER, see IMF Occasional Paper 261, *Exchange Rate Assessments: CGER Methodologies*, 2008.

policy gaps refer to fiscal policy, social protection, capital controls and reserve accumulation (as discussed further below).

- The *real exchange rate regression-based approach* gives *Total RER Gaps*. It is closely analogous to the first approach, including the estimation of policy gaps' contributions, but based on a real effective exchange rate panel regression. This regression does however include some additional variables that would not be relevant to a current account regression.

6. In light of the parallel development of these two EBA methods, and for the sake of brevity, this annex focuses on the current account regression-based approach.

Stage 1. Specification and estimation of the panel regression

7. The foundation of the analysis is a panel regression of the current account/GDP ratios of some 50 advanced and emerging market economies. Together, these economies now account for about 90 percent of world GDP.

8. The estimation sample is 1986–2010, with the estimation using annual data from that period. The purpose of using annual data, rather than data that has been pre-averaged into 4- or 5-year blocks, is to uncover cyclical sources of current account behavior. In turn, this allows a cyclical adjustment of the current account, and for the subsequent analysis to focus on the latest observed current account (2011).

9. The specification of the current account regression includes a number of regressors similar to those used in the CGER, including those related to demographics, the level of relative per capita income, and income growth. The findings are familiar: countries that are aging more rapidly, that are richer, and that are growing more slowly, are more likely to have a current account surplus. The regression also includes a term measuring the oil trade balance, but only to the extent that this exceeds 10 percent of GDP: while countries with very large oil resources tend to run current account surpluses, among other countries no relationship between oil trade balances and current accounts is found.

10. The CA regression does not include the lagged value of the current account itself (unlike in the CGER methodology) but instead includes the lagged ratio of net foreign assets (NFA) to GDP (as in one of the variants of the CGER regression, but not used in the CGER methodology). In general, countries with more positive NFA positions tend to have higher CA balances—though not necessarily higher trade balances (importantly, the positive coefficient on NFA in the CA regression is small, relative to average rates of return on external assets and liabilities). Moreover, the regression allows for a nonlinear relationship with NFA, since it is quite apparent that the generally positive association flattens or disappears when NFA is far into the negative range (perhaps because sustainability concerns become more pressing).

11. In addition, the EBA current account regression takes account of several cyclical influences, including the output gap, the commodity terms of trade cycle or gap, and swings in global capital market conditions. The output gap captures business cycle effects, proxying for the role of temporary demand shocks: e.g., a positive demand shock would cause output to rise above potential and the current account balance to decline. A rise in the commodity terms of trade, measured so as to capture only its cyclical element, is associated with a current account improvement.
12. A further addition to the CA regression is a measure of global capital market conditions, or global risk aversion, which is proxied by the VOX index (similar to the better-known VIX, but available for a longer period). As hypothesized, this shows up as a significant determinant of current account balances, but one that does not affect all economies equally. For non-reserve currency countries, a rise (fall) in global risk aversion is associated with a rise (fall) in the current account. For reserve currencies, a rise in global risk aversion is associated with a decline in the current account.
13. The regression also includes four policy variables: the cyclically-adjusted fiscal balance, social protection spending (proxied by public health spending/GDP, which is likely to influence private savings behavior), capital controls, and FX market intervention (proxied by changes in foreign exchange reserves). The results indicate that higher current account balances are associated with stronger fiscal positions, lower levels of social protection, higher degrees of controls on capital flows, and faster rates of reserves accumulation.
14. Recognizing that that certain shocks and policies influence economies differently, the regression specification employs several interaction terms. In particular, the influence of swings in global capital market conditions depends on whether an economy has reserve currency status, and on its openness to capital flows. The effect of the terms of trade cycle depends on an economy's openness to trade. The influence of the accumulation of international reserves also depends on the presence of capital controls (the more restrictive are controls, the greater the impact of reserve accumulation on the current account).
15. The estimated coefficients from the current account panel regression are shown in Table 1. It should be highlighted that nearly all the variables used in the CA regression are in fact measured on a relative basis. That is, for the case of the fiscal balance for example, the regressor is actually the difference between a country's "own" fiscal balance and the "world average" fiscal balance. (Intuitively, a change in fiscal policy could have no effect on CA levels if all countries together were to change fiscal policy in the same way at the same time.) Such a relative specification is necessary for the analysis to be consistent across countries.

Table 1. EBA: Current Account Regression Results 1/

(Estimation Period: 1986-2010)

L. NFA/GDP	0.04 ***
L. (NFA/GDP)*(dum=1 if NFA/GDP < -60%)	-0.03 **
Financial Center Dummy	0.04 ***
L. Own per capita GDP/US per capita GDP (PPP)	0.04 ***
Oil Trade Balance/GDP (if >10%)	0.5 ***
Dependency Ratio	-0.03
Population Growth	-0.4
Aging Speed	0.1 ***
Real GDP growth, 5-year ahead forecast	-0.4 ***
L.Public Health Spending/GDP	-0.7 ***
L.VOX*(1-Kcontrol)	0.06 ***
L.VOX*(1-Kcontrol)*(currency's share in world reserves stock)	-0.2 ***
Own currency's share in world reserve stock	0.003
Output Gap	-0.4 ***
Terms of Trade gap*Trade Openness	0.3 ***
Cyclically Adjusted Fiscal Balance, instrumented	0.40 ***
Capital Control Index ("Kcontrol")	0.03 ***
Kcontrol*(Changes in Reserves)/GDP, instrumented	0.4 **
Constant	0.003
Observations	1099
R-Squared	0.61
Number of countries	50

1/ GLS estimates with panel heteroskedasticity corrected standard errors.

"L" stands for one-year lag of the respective variable.

* significant at 10%; ** significant at 5%; *** significant at 1%

Stage 2. Identification of Policy Gaps and Total CA Gaps

16. The essence of this step is to estimate the contributions to observed CAs of any “policy gaps” corresponding to the four policy variables included in the panel regression.

17. This requires specification of *normative policy benchmarks* for appropriate settings (levels) of the four policy variables. The policy benchmarks are defined and obtained as follows:

- For fiscal policy, the recommended level of the cyclically-adjusted fiscal balance is provided by the country desk. (Importantly, these recommended settings do not necessarily refer to the current year, since special considerations might apply to the current year. Typically the recommendations refer to a medium-term horizon, so that considerations of the business cycle and a possible counter-cyclical role of fiscal policy would not be relevant for the recommendations.)
- Regarding social protection—and more particularly public health spending—a benchmark is obtained from a regression of such spending (as a share of GDP) on countries’ level of (PPP-based) GDP per capita (which alone explains 80 percent of the variation in health spending) as well as their demographics (the old age dependency ratio).
- For capital controls, the benchmark is either the cross-country average level of the capital controls index (0.15 in 2010, out of a range from 0 to 1), or a country’s actual level, whichever is the smaller.
- For the change in international reserves, the approach is to presume that for most countries the observed change in 2011 was appropriate. However, for those countries having levels of reserves far in excess of the reserves metric’s suggested adequacy range (see Appendix III), the appropriate change in reserves is specified as zero.

18. These benchmarks identify policy gaps, which are simply the difference between observed policies and the policy benchmarks. Finally, the contributions of the identified policy gaps to the current account are estimated, taking the relevant regression coefficients that were estimated in Stage 1 and multiplying these by the corresponding policy gaps. These contributions, together with the regression residual, are then summed to form a country’s *Total CA Gap*.²

19. An important question concerns the roles of policies and policy distortions that may influence the current account but so far have not been feasible to explicitly capture in the EBA analysis. For example, financial regulation policies might affect saving and investment behavior and thus the current account balance. In turn, failures or lapses of such policies, judged relative to some standard, might give rise to undesirable booms in credit, asset prices and domestic demand, pulling

² The EBA results are first checked for multilateral consistency, such that the sum of the actual CA levels in the year of analysis is matched by the sum of the regression-predicted values. Any discrepancy (typically 0.2 percent of GDP) is then used to adjust the EBA results, uniformly across all countries, for exact consistency. Similar consistency checks and small adjustments (if needed) are also done for each of the four policy gap contribution estimates.

down the current account balance inappropriately. Such effects are not explicitly gauged in the EBA analysis, as a way has not yet been found to systematically measure and model the relevant financial policies and distortions. Instead, these effects would likely be captured indirectly, appearing in the regression residual and thus also in the Total CA Gap. While a more explicit treatment would be preferable, the point is that omission of a policy distortion from the EBA model does not mean missing its impact on the current account.

20. A final point concerning policy gaps and the multilateral nature of the CA analysis deserves reiterating. As discussed, the regression's variables must be measured on a relative basis, with each country's characteristics measured against others'. This same logic applies in Stage 2 when analyzing policy gap contributions. Thus for example a country with no "own" fiscal policy gap could still experience a net contribution to its own CA stemming from the fiscal policy gaps of other countries. In short, a policy gap contribution to a country's CA may be of foreign and/or domestic origin.

External sustainability (ES) approach

21. In this more basic, model-free approach, the CA gap is the difference between the level of the current account (projected for the medium term) and the current account level *that would stabilize the net foreign asset (NFA) position at a benchmark level*.

22. The ES approach remains essentially unchanged from that in CGER.³ It is the only one among the three EBA approaches that is neither based on regression analysis nor on a model/set of hypotheses. Its simple structure is both a strength and a limitation.

23. Unlike the other two EBA approaches, the ES approach does not seek to identify the adjustment required to bring the current account (or the real exchange rate) to an optimal or appropriate level. Nor does the ES approach itself identify an appropriate level of NFA/GDP.

24. In order to calculate the CA/GDP adjustment consistent with stabilizing NFA/GDP at a benchmark level, the ES approach requires assumptions about a country's potential growth rate, inflation rate, and rates of return on external assets and liabilities. It also requires the selection of a benchmark level of NFA/GDP.

25. At the current time, the NFA/GDP benchmark is set at the latest observed (2010) level, for the majority of countries analyzed by EBA.⁴ Although this particular benchmark has little normative content, it allows the ES approach to provide some perspective on whether the medium-term CA/GDP that is projected (at current real exchange rates) is likely to lead to an increased debtor or creditor positions relative to their current NFA level.

³ In ongoing work, a number of variants and extensions of the ES approach are being developed, for future implementation. (For greater details on the ES approach, see IMF Occasional Paper #261, *Exchange Rate Assessments: CGER Methodologies*.)

⁴ Following CGER practice, for economies with extremely high external liabilities (e.g., Greece, Hungary, Portugal, Spain), low external liabilities (e.g., South Africa), or large exports of non-renewable resources (e.g., Russia), the benchmark is modified on the basis of regional averages or other criteria.

26. The ES calculation is done in two steps. The first involves calculation of the CA/GDP level that would stabilize the NFA/GDP at the benchmark level. The second step calculates the CA/GDP gap as the WEO projected (2017) CA/GDP (assuming closed output gaps, current real exchange rates, and current policies—including those due to take effect between 2012 and 2017)—less the NFA benchmark-stabilizing CA/GDP. Where this gap is different from zero, the ES assessment is that the projected medium-term CA/GDP will not stabilize the benchmark NFA/GDP position.

27. The ES gap is complementary to the gaps calculated in the CA and REER regression-based approaches, but not directly comparable. A key difference is that the ES does not attribute its CA gaps to the contributions of deviations from optimal policies (nor to any particular driver of the CA). Another difference is that the regression-based gap focuses on the current actual position (while controlling for cyclical influences, to the extent possible), whereas the ES approach gap focuses on the projected medium term (2017 current account).

28. In general, the ES gap may be more informative when countries have large net debtor positions, especially if these positions are projected to grow over the medium term. The ES gap also provides a complementary perspective that may be especially valuable where the regression approaches yield unsatisfactory empirical fits or face other particular country-specific challenges.

29. Differences in the regression-based current account gap and the ES current account gap could arise from several factors, among others: (a) the use in the ES of an NFA benchmark that is not an optimal NFA level; (b) discrepancies between current policies (assumed in ES) and the desirable mix of policies (assumed in the regression-based approach); and, (c) an unsatisfactory regression fit, which could increase the Total CA Gap but not might not reflect distortions. Nevertheless, the two types of CA gaps nearly always point in the same direction for a given country, even if their magnitudes differ.

Interpreting EBA results: relevance and reliability

30. The three EBA approaches have relative strengths and limitations. While each can act as a check on the others, each is known to perform better or worse in certain situations:

- *The current account regression-based approach:* This approach is often but not always the most informative and reliable of the three EBA approaches. Its limitations tend to be most apparent in analyzing countries with important or dominant “special” sectors, such as large oil exporters and relatively small economies that are financial centers. For some countries, this approach yields very large regression residuals, and thus Total CA Gaps, which require further interpretation.
- *The real exchange rate regression-based approach:* This approach is especially useful where the first approach faces a particular difficulty. Its limitations are reduced reliability in countries with large productivity differentials or other large structural changes, as well as those with short data spans. This method forces gaps for each country to average to zero over time, and the resulting RER gaps may be understated as a consequence. A related

problem is that RER gap estimates for the current year can be very sensitive to the length of the prior sample period used to analyze a given country. The potential solution to these problems would be a regression analysis based on estimates of real exchange rate levels, rather than a time series of exchange rate *indices* that cannot be compared across countries. Work is ongoing to develop such a method, for use in a future EBA round. (Another issue is that measured gaps can fluctuate quickly with short-term currency movements, but this is common to all exchange rate assessment approaches.)

- *The external sustainability approach:* As noted, this approach is most relevant and informative for countries with large NFA imbalances, and for which there is a clear view of what would be a more appropriate NFA level.

31. It is clear that EBA's two regression-based methods are the more ambitious, in terms of taking account of many factors in regressions, and then using those as a base for normative evaluation. As such, results of the first two methods in principle should be more meaningful than the less-ambitious ES exercise. However, despite a range of technical advances and refinements, the regression-based approaches of EBA cannot entirely overcome certain essential issues (issues that were also present in CGER). *The underlying difficulty is that the positive empirical analysis still leaves one with an incomplete understanding of CA and RER levels and movements: there remains an unexplained, residual component, one that is often too large to completely ignore.* In such a case, the challenge is to interpret the residual appropriately. Absent perfectly complete information from the standardized EBA regressions, additional information and judgment is needed to complete a normative analysis, that is, an *assessment*. Essentially, a judgment must be made as to what is missing from the EBA regression's analysis of a given country, and whether the regression residual reflects the effects of distortions or of fundamentals on the CA and RER. In many cases, what is missing from the EBA analysis may be something well known to experienced analysts of a given country, even if it is not feasible to measure and include that factor in the panel regression.

32. In light of the above, as well as the element of uncertainty that comes with any econometric analysis, EBA can be seen as a tool that provides useful estimates to inform assessments, rather than as a mechanical means of producing assessments themselves.

Comparisons with CGER

33. A natural question is how the EBA CA Gap estimates compare with the CGER gaps. Such a comparison is not straightforward, for a number of reasons. First, EBA analyzes the most recently observed CA, after making cyclical adjustments, whereas the CGER analyzed the CA five years into the future, as forecasted by country desks. Second, the EBA CA regression specification includes many more regressors than CGER, including policy and cyclical variables (but note that more regressors does not necessarily mean smaller residuals for any given country, nor would a smaller regression residual necessarily mean a smaller Total CA Gap, since policy gaps also contribute to that Total Gap). Third, the CGER regression included the lagged CA itself, but the EBA regression does not. This difference is most relevant for countries that have had a record of large deficits or

surpluses that were sustained over time but not explained by other variables in the regression, and is a reason why CGER gaps may turn out to be smaller than EBA gaps in such cases. Fourth, unlike the CGER gap which arose from the regression residual alone, the EBA Total CA Gap takes account also of the effects of policy gaps. EBA thus differs from CGER not only in its method but also in concept and objective of its gap estimates.

34. Notwithstanding the above differences, there is a strong positive correlation, looking across countries, between EBA and CGER current account gaps, even though the sizes of the two gaps may differ for any one country.

Appendix II. Selection of Economies Included in the Report

The 28 systemic economies and Euro area analyzed in detail in this Pilot Report are listed below. They were chosen on the basis of an equal weighting of their each economies' global ranking in terms of purchasing power GDP, as used in the Fund's *World Economic Outlook*, and in terms of the level of nominal gross trade.

Australia
Belgium
Brazil
Canada
China
Euro area
France
Germany
Hong Kong SAR
India

Indonesia
Italy
Japan
Korea
Malaysia
Mexico
Netherlands
Poland
Russia
Saudi Arabia

Singapore
South Africa
Spain
Sweden
Switzerland
Thailand
Turkey
United Kingdom
United States

Appendix III. The Assessment of Reserve Adequacy

1. For emerging markets the discussion of reserve adequacy centers around the composite adequacy metric developed in the IMF's [Assessing Reserve Adequacy](#), 2011 policy paper and its supplement. Where other, traditional, measures of reserve adequacy—such as import of short-term debt coverage—focus on a particular set of potential balance of payment risks, the composite metric was designed to reflect a broad range of potential pressures. As highlighted in *Assessing Reserve Adequacy*, this composite metric outperforms other adequacy metrics in predicting exchange market pressure events.

2. The potential sources of risk included in the composite metric are external liabilities, current account variables and some measure of capital flight. Specifically, the metric includes four specific sources of drains that play separate, essentially non-overlapping, roles:

- Export earnings reflect the potential loss that could arise from a drop in external demand or a terms of trade shock. Imports are a more familiar current account variable, but would not capture risks of external demand collapse, and are also problematic to model.
- Short-term debt (at remaining maturity), medium- and long-term debt and equity liabilities account for external liability stocks. The expectation would be that short-term debt is riskier, especially for floating rate regimes. Potential balance of payments needs from equity outflows should be reduced by depreciation of the local currency as well by falling equity prices.
- Broad money is used to represent capital flight risk from the stock of liquid domestic assets that could be sold and transferred into foreign assets during a crisis.

3. The relative risk weights for each potential source of outflow used in the metric are based on observed outflows from EMs during periods of exchange market pressure. Specifically the potential outflows are computed from the distribution of the annual percentage loss of export income, short-term debt, other longer-term liabilities, and liquid domestic assets (proxied by broad money) observed during such exchange market pressure events. Separate distributions are estimated for fixed and floating exchange rate regimes, given the differing risk levels, with the final weights based on the observed outflows at the tenth percentile. However, reflecting the very large uncertainty necessarily surrounding these estimates, “round-number” weights were ultimately used for the metrics.

4. The composite metric for the two exchange regimes is computed as follows:

Fixed: 30% of STD + 15% of OPL + 10% of M2 + 10% of X

Floating: 30% of STD + 10% of OPL + 5% of M2 + 5% of X

Where STD = short-term debt, OPL = other portfolio liabilities, M2 = broad money, and X = exports of goods and services.

As described in the *Assessing Reserve Adequacy* paper, reserves in the range of 100–150 percent of the composite metric are considered adequate for precautionary purposes. While this range is somewhat based on judgment, countries with reserves much below 100 percent of the metric generally suffered larger consumption falls during the post-Lehman crisis. In addition, estimates from *Assessing Reserve Adequacy* suggest that reserves levels above 150 percent of the composite metric result in minimal reductions in the probability of an emerging market facing exchange market pressure.

Appendix IV. Supporting Charts and Tables

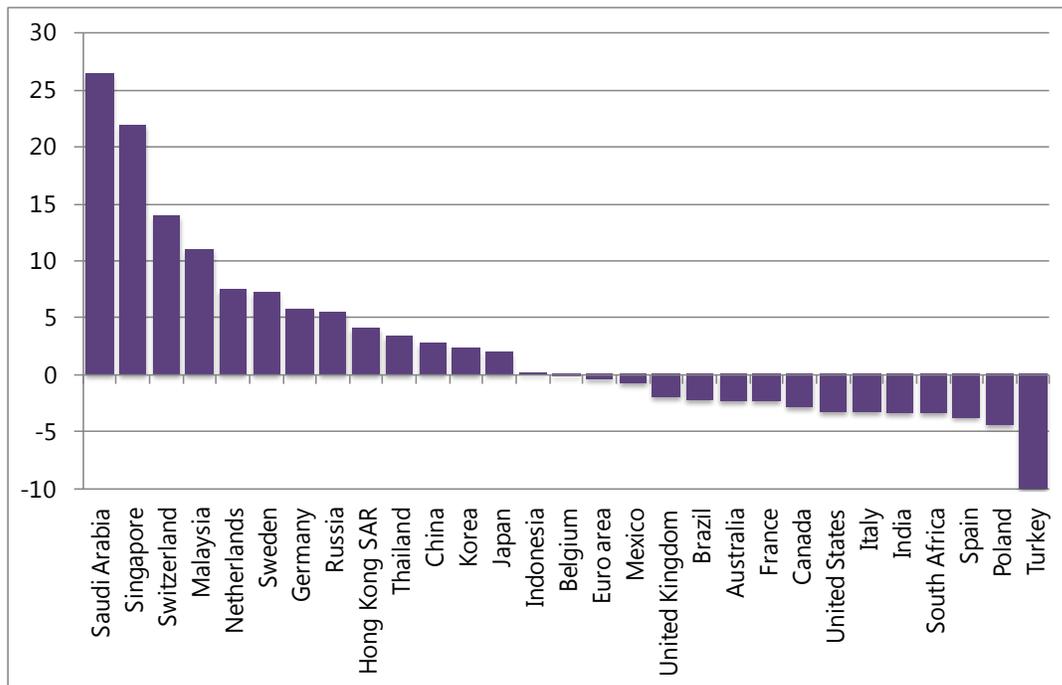
Table A1. Summary of External Position Indicators

Country	2011 Current Account		2011 Net Capital Flows		2011 Reserves Increase	2010 Net Foreign Assets*	Reserve Stock		Estimated Change in REER
	USD Billions	Percent of GDP	USD Billions	Percent of GDP	USD Billions	Percent of GDP	Ratio to Debt Securities & Other Investment, 2010, Percent	IMF Metric, EMs Only, 2011 Percent	Percent, Dec 2010 to Jun 2012
Australia	-33	-2.2	32	2.1	0	-59*	4		-0.2
Belgium	-1	-0.1	4	0.8	1	77	3		-2.1
Brazil	-53	-2.1	137	5.5	63	-20*	75	174	-10.6
Canada	-49	-2.8	64	3.7	8	-13*	6		-2.1
China	201	2.8	231	3.2	388	30	446	188	8.0
Euro area	-41	-0.3				-12*	6		-3.8
France	-62	-2.2	37	1.4	-7	-11	4		-3.7
Germany	205	5.7	-220	-6.2	4	33*	5		-4.1
Hong Kong SAR	10	4.1	-3	-1.4	1	289*	40		1.9
India	-60	-3.3	57	3.1	1	-14	100	180	-8.7
Indonesia	2	0.2	12	1.5	14	-41	54	138	-0.9
Italy	-70	-3.2	68	3.1	1	-21*	7		-2.0
Japan	120	2.0	72	1.2	177	56*	43		1.6
Korea	27	2.4	-18	-1.6	14	-9*	83		-1.1
Malaysia	32	11.0	3	1.2	27	2	89	119	-2.4
Mexico	-9	-0.8	52	4.5	29	-35	49	144	-11.7
Netherlands	63	7.5	-62	-7.3	1	34*	2		-3.8
Poland	-22	-4.3	39	7.6	6	-55*	38	118	-5.3
Russia	101	5.5	-82	-4.4	19	1	112	182	1.9
Saudi Arabia	159	26.5	-14	-2.3	95	107	900		4.8
Singapore	57	21.9	-29	-11.1	17	233	47		-11.7
South Africa	-13	-3.3	19	4.7	6	-18	53	108	-13.9
Spain	-55	-3.7	78	5.2	14	-86*	2		-3.3
Sweden	39	7.2	-32	-6.0	0	-7*	7		3.2
Switzerland	89	14.0	-23	-3.6	66	147*	25		-0.2
Thailand	12	3.4	-3	-0.8	3	-11	189	337	-4.8
Turkey	-77	-9.9	63	8.1	-2	-49	29	95	-5.1
United Kingdom	-46	-1.9	56	2.3	9	-14*	1		4.3
United States	-473	-3.1	409	2.7	16	-27*	4		3.0

Sources: Current account, capital account, and increase in reserves data come from the April 2012 *World Economic Outlook* with staff updates where available. Net foreign assets data come from the IMF's International Financial Statistics and REERs from the IMF's Information Notice System. Reserve metrics are based on IMF staff calculations.

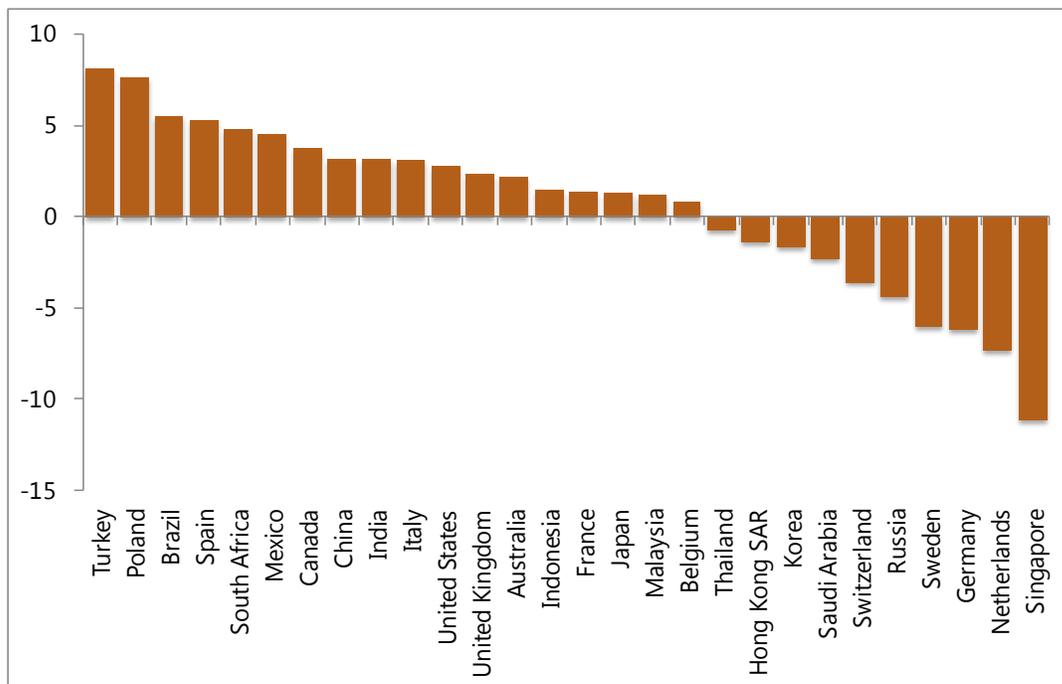
* Net foreign asset data is in US dollars. Numbers with astericks are for 2011, without are for 2010. Ratios may differ from local currency values due to the difference between average and end-of-period exchange rates.

Figure A1. Current Account Balances, 2011
(Percent of GDP)



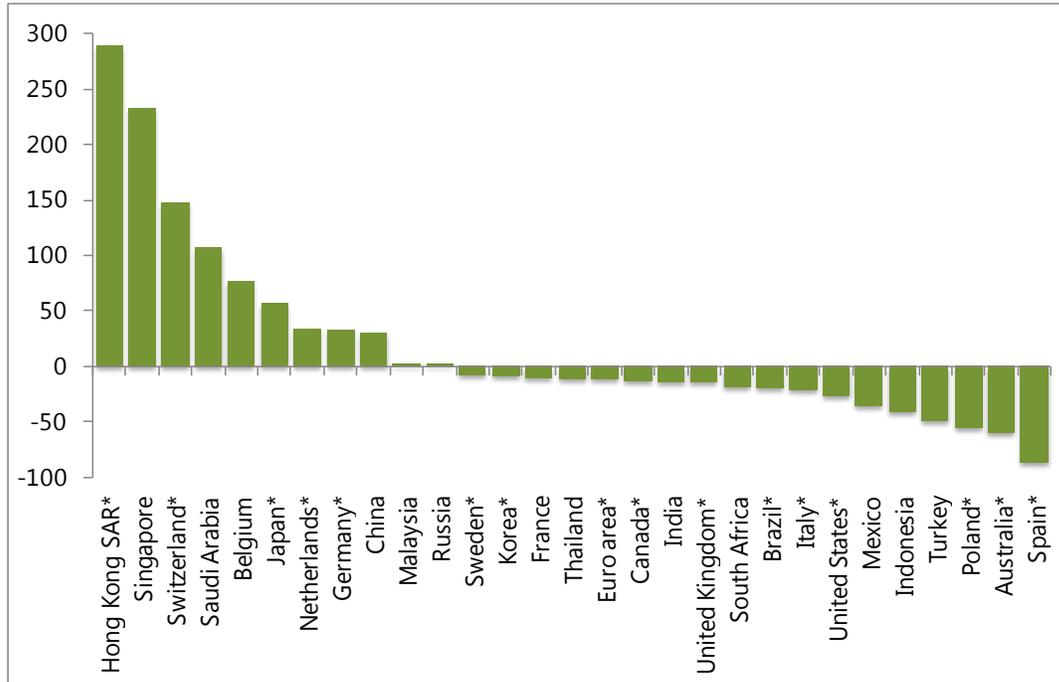
Source: IMF, World Economic Outlook Database

Figure A2. Net Capital Flows, 2011
(Percent of GDP)



Source: IMF, World Economic Outlook Database

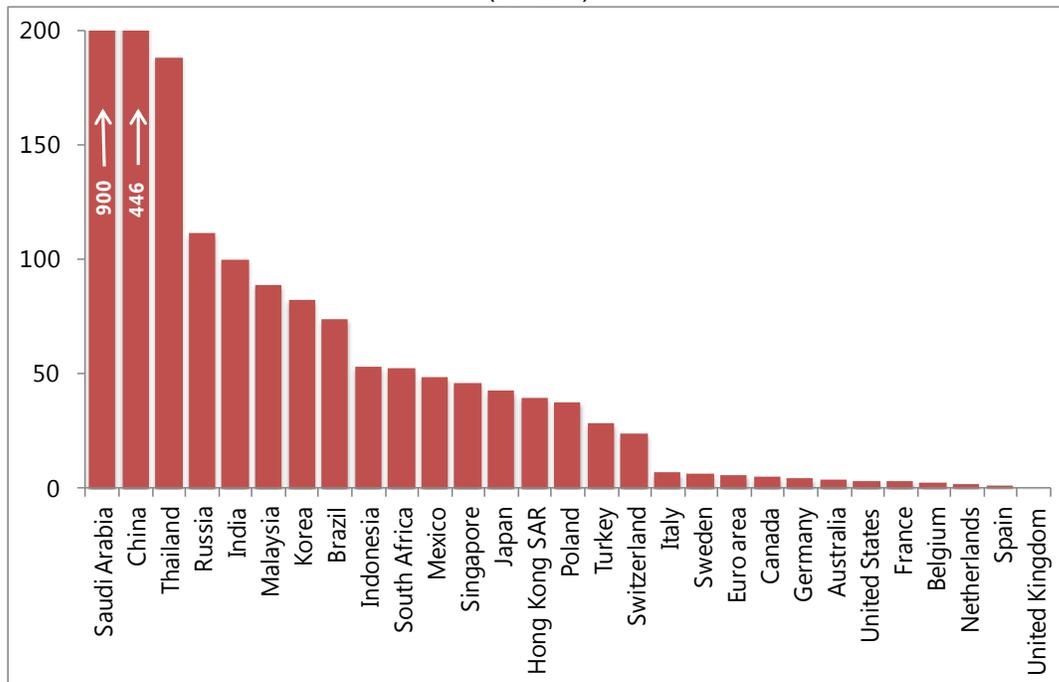
Figure A3. Net Foreign Assets, 2010 & 2011*
(Percent of GDP)



Source: IMF, World Economic Outlook Database

* Data for 2010 unless marked with an asterick, which is for 2011.

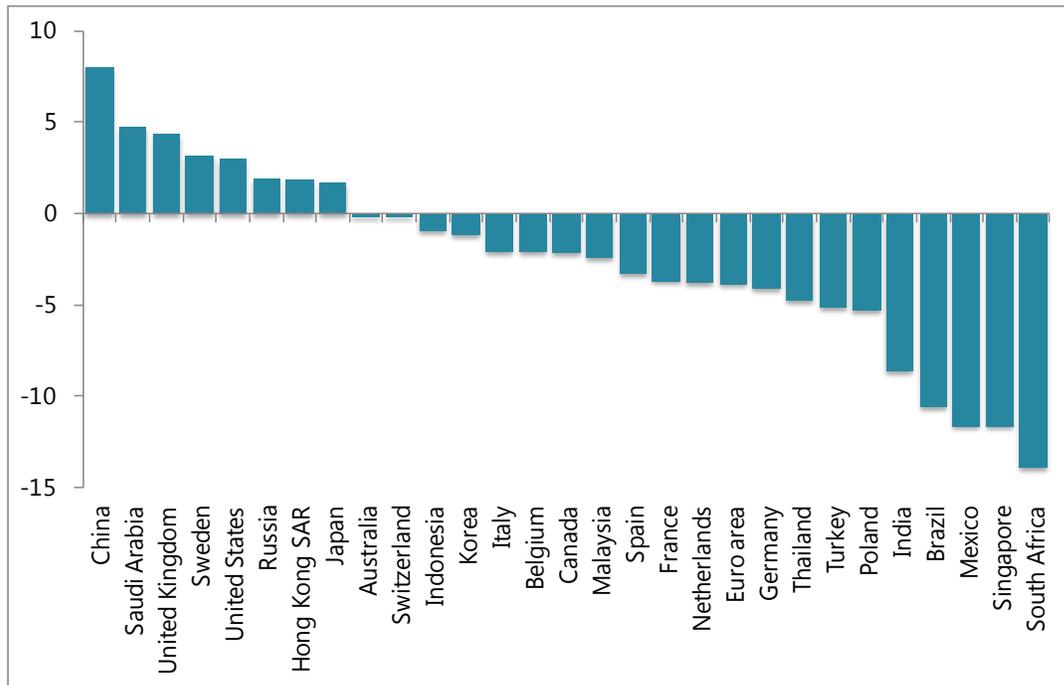
Figure A4. Reserves to Gross Debt*, 2010
(Percent)



Source: IMF, World Economic Outlook Database

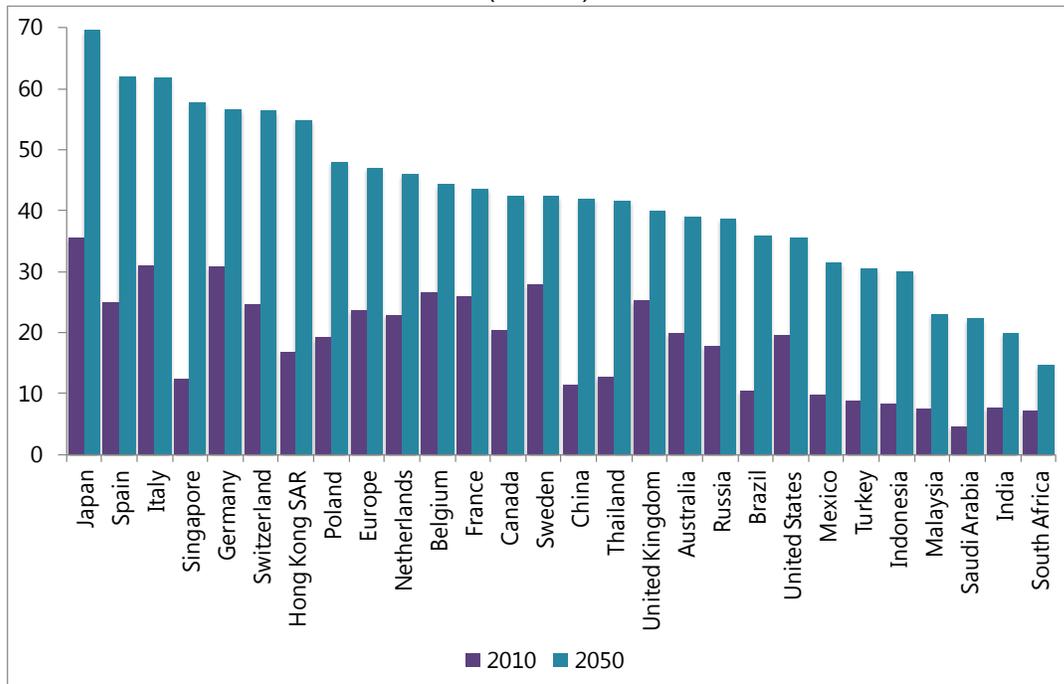
* For 2010 as gross debt not available for most economies. Gross debt = portfolio debt and other liabilities as shown in the international investment position.

Figure A5. Real Effective Exchange Rate
(Percentage change, Dec 2010 to Jun 2012)



Source: IMF, Information Notice System, and IMF Staff Estimates

Figure A6. Old Age Dependency Ratio, 2010 and 2050
(Percent)



Source: United Nations

Appendix V. The Major Changes Arising from *BPM6* that Affect Current Account Statistics¹

The sixth edition of the *Balance of Payments and International Investment Position Manual (BPM6)* contains a number of changes that will affect current account statistics for goods processing, research & development, reinvested earnings, large insurance losses, and measurement of insurance services.

The *BPM6* was released in 2009 as an update to the *BPM5* (released in 1993). The *BPM6* retains the basic framework of the *BPM5*, and the revision was undertaken in parallel with the update of the *System of National Accounts*, thereby enhancing the harmonization of macroeconomic statistics. Starting with the August 2012 releases, the IMF will disseminate balance of payments and international investment position data in the *BPM6* format.

Major changes that will affect the current account include:

- **Goods for processing:** Goods for processing without change in ownership are excluded from processor's and owner's goods trade. Only the processing fees are included, in services (manufacturing services on physical inputs owned by others).
- **Sales/purchases of the results of research and development:** Outcomes of R&D are treated as produced assets and transactions in such property (such as patents, copyrights, and industrial processes) are included in R&D services (previously treated as nonproduced assets and shown in the capital account).
- **Reinvested earnings of investment funds:** The earnings from investment funds that are not distributed as dividends to shareholders are viewed as if they were distributed and then reinvested back (similar to treatment of reinvestment of earnings on foreign direct investment).
- **Catastrophic losses on insurance:** For exceptionally large claims, such as those following a catastrophe, some part of the claims may be recorded as capital transfers rather than current transfers.
- **Insurance services:** The estimate of insurance claims used to derive the value of insurance services is changed to adjust for claims volatility. Premium supplements (i.e., investment income attributable to policyholders) are considered in deriving insurance services. Reinsurance and direct insurance are treated consistently.
- **Migrant's transfers:** Migrants' personal effects are not included in general merchandise (anywhere else in the international accounts).

¹ Prepared by the Fund's Statistics Department.

Appendix VI. List of Country Groupings for Balance of Payments Analysis

Other Advanced Economies

Australia
Canada
 Czech Republic
 Denmark
 Hong Kong SAR
 Iceland
 Israel
Netherlands
 New Zealand
 Norway
Singapore
Sweden
Switzerland
United Kingdom

Emerging Asia excl China

India
Indonesia
Korea
Malaysia
 Pakistan
 Philippines
 Sri Lanka
Thailand
 Vietnam

Emerging Latin America

Argentina
Brazil
 Chile
 Colombia
 Costa Rica
 Dominican Republic
 Ecuador
 El Salvador
 Guatemala
 Jamaica
Mexico
 Paraguay
 Peru
 Uruguay

Oil Exporters

Algeria
 Bahrain
 Iran, Islamic Republic of
 Iraq
 Kazakhstan
 Kuwait
 Libya
 Oman
 Qatar
 Russia
Saudi Arabia
 Sudan
 United Arab Emirates
 Venezuela
 Yemen, Republic of

Emerging Europe

Bulgaria
 Croatia
 Estonia
 Hungary
 Latvia
 Lithuania
Poland
 Romania
Turkey

Other Emerging Markets

Armenia
 Bosnia and Herzegovina
 Egypt
 Israel
 Jordan
 Lebanon
 Morocco
 Serbia
South Africa
 Tunisia
 Ukraine

Note: Italics indicate countries included in the ESR and hence are the only countries included in analysis of current accounts and policy gaps.