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The Balance of Payments Crisis in the Euro Area Periphery

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Countries in the euro area periphery borrowed heavily from abroad in the years leading up to the sovereign debt crisis, largely to finance increased consumption and housing investment. When the crisis hit in 2010, capital flight by private investors forced these countries to bring domestic spending back into line with domestic incomes—the same adjustment required of countries facing a typical balance of payments crisis. Nevertheless, adjustment to the pullback of private capital was not as harsh as might have been expected, owing to the workings of the euro area's system for managing crossborder payment imbalances between regional commercial banks. This system, known as Target2, offset much of the capital flight with credits extended collectively by euro area central banks to central banks in the periphery.

he euro area sovereign debt crisis started with Greece in early 2010 and soon spread to other "periphery" countries such as Portugal, Spain, and Italy. Evidence that the Greek crisis stemmed from an unsustainable fiscal situation led many observers to believe that fiscal mismanagement underlay the problems in these other countries as well.

An alternative interpretation, however, traces the crisis in the periphery to an excessive reliance on foreign capital. Periphery countries were borrowing heavily from abroad before 2010 to support domestic consumption and housing booms. When foreign investors became unwilling to extend new credit, periphery countries faced wrenching adjustment pressures. In particular, the withdrawal of private capital forced these countries to bring total domestic spending—government and private—more closely into line with domestic incomes.

However, the tightening in credit conditions in the periphery economies proved considerably less severe than what would ordinarily result from capital flight on the scale observed. Why was that? In this edition of *Current Issues*, we identify one factor that proved crucial: Much of the capital flight was offset by cross-border credits to deficit countries' central banks. The credits were extended collectively by other euro area central banks as part of the Eurosystem's mechanism for managing payments imbalances among member countries. This balance of payments financing was paired with policies to supply liquidity to periphery commercial banks to offset the drain of funds abroad. Absent these twin stabilizing mechanisms, periphery

¹ The Eurosystem is the umbrella organization that comprises the European Central Bank and the euro area national central banks.

countries would have experienced even steeper recessions from the sudden withdrawal of foreign capital.

The Risk of Depending on Borrowed Money

Countries regularly borrow from and lend to one another. The scale on which a country borrows and lends is reflected in its current account balance, a broad measure of the trade balance. A country whose imports exceed its exports is spending more than it produces, and must borrow abroad to make up the difference. As an accounting identity, a country's borrowing is also equal to the difference between domestic investment spending and domestic saving. Again, a country where domestic saving is not sufficient to finance investment spending has allowed total spending to run ahead of income and must turn to surplus foreign saving to make up the difference.

In the years following the formation of the monetary union in 1999, euro area periphery countries were spending more on consumption and on investments such as housing than could be paid for by income earned from domestic production. The problem was not simply that government spending exceeded tax revenues; the private sector was also running up debts with the rest of the world. Spain relied on borrowed money from abroad to fund a housing bubble and, along with Italy, Portugal, and Greece, a consumption boom. All this borrowing was encouraged by the low domestic interest rates that came with membership in the monetary union.

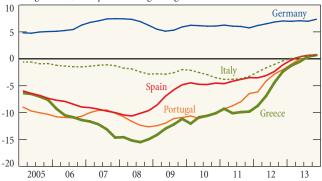
The periphery countries started to cut back on domestic spending with the global recession in 2008, thereby reducing their reliance on foreign borrowing. Over the next two years, Greece, Portugal, and Spain saw notable improvements in their current account balances; Spain, for example, succeeded in cutting its deficit roughly in half, to 5 percent of GDP (Chart 1). Nevertheless, at the onset of the sovereign debt crisis in 2010, Greece and Portugal still had large gaps between spending and income, amounting to about 10 percent of GDP.

The sovereign debt crisis and subsequent rush from periphery markets by foreign investors greatly intensified the adjustment pressures on the periphery countries. The countries responded by reining in spending even more forcefully. The result was a substantial further narrowing in periphery current account deficits, with exports rising relative to imports, and saving rising relative to investment spending. By mid-2013, the painful task of bringing spending down to the level of domestic incomes was largely completed.

Although the adjustment in the periphery countries largely followed a standard pattern, it was in one important respect

Chart 1 Periphery Current Account Balances

Percentage of GDP, four-quarter rolling average



Source: Eurostat.

Note: Data for Spain, Italy, Greece, and Germany are through 2013:Q4; data for Portugal are through 2013:Q3.

unusual. Typically, large-scale capital flight induces a sharp fall in the value of the domestic currency, making exports cheaper in foreign currency terms for foreign consumers and making imports more expensive for domestic buyers. However, the periphery countries, as members of the euro area, no longer have independent national currencies to act as adjustment tools. Indeed, the "exchange rate" with their trading partners elsewhere in the euro area is irrevocably fixed.

Adjustment: Exports and Imports

It is better for a country losing access to foreign capital to boost exports rather than to cut back on imports. Higher exports translate into higher domestic production and income, reducing the need to cut spending. To be sure, lowering imports can have the positive effect of moderating job losses if consumers and businesses are switching to domestically produced goods and services. However, current account adjustment through imports generally means the adjustment is being achieved through a cutback in overall spending.

In 2013, much of the trade adjustment that brought the current accounts to near zero in Italy, Spain, and Portugal came from higher export revenues (Table 1). From 2010 to 2013, nominal goods and services exports in these countries rose 15 percent or more, an increase roughly in line with the rise in Germany's exports. Higher exports in these countries supported growth, softening the ongoing economic downturns. Greece, in contrast, saw export sales rise only 6 percent over this three-year period—an increase that provided more limited help in easing the country's severe downturn. For the most part, the periphery countries' success with exports was achieved through sales to countries outside the euro area (Chart 2). (See Box 1 for more information on how export performance reflects

² Higgins and Klitgaard (2011) examine the challenges faced by periphery countries in adjusting to greatly reduced access to foreign capital.

³ Italy stood apart from this trend, with its deficit holding roughly steady at 2 to 3 percent of GDP in the run-up to the debt crisis.

Table 1 **Export Sales and Import Spending**

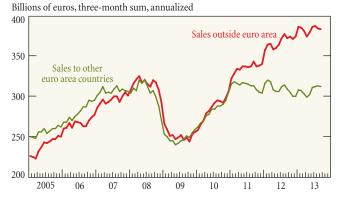
Percentage Change, 2010 to 2013

	Exports	Imports
Greece	6.4	-17.4
Italy	15.1	-1.0
Portugal	23.6	-3.6
Spain	22.0	4.2
Germany	16.7	16.0

Sources: Eurostat; Haver Analytics.

Notes: Data are for goods and services, in nominal euro terms. Data for 2013 are through the third quarter.

Chart 2 **Periphery Merchandise Exports**



Sources: International Monetary Fund, Direction of Trade Statistics database; Financial Times: Eurostat.

Note: The periphery here includes Italy, Spain, Greece, and Portugal.

trends in periphery competitiveness.) Lower import spending also contributed to the closing of current account deficits in Italy, Portugal, and especially Greece.

Adjustment: Saving and Investment Spending

Higher public and private saving also contributed to the end of external borrowing, with Italy and Spain recording modest increases in saving while Greece and Portugal experienced more substantial increases (Table 2). In addition, the narrowing in periphery current account deficits owed much to reductions in investment spending, with declines ranging from 3 percentage points of GDP to almost 5 percentage points.

While higher saving and cuts in investment spending were instrumental in restoring balance to current accounts in the periphery, they had the effect of reducing output and raising unemployment. In addition, the drop in investment spending, particularly outside of the residential sector, has negative

Box 1

Competitiveness, Exports, and Imports

When a country loses access to foreign credit, its export sales must rise relative to import purchases. Typically, the improvement in sales comes from a currency depreciation that makes exports cheaper in foreign currency terms. In addition, firms can actively lower their export prices by taking steps to reduce their production costs. They can, for example, lower wages, increase productivity, or accept narrower profit margins.

Discussions of the sustainability of improvement are often couched in terms of external competitiveness. Unfortunately, competitiveness measures are imperfect. One common metric is based on unit labor costs—that is, on labor compensation growth relative to labor productivity, adjusted for exchange rate changes. The intuition underlying this measure is simple: Higher wages erode competitiveness unless offset by productivity gains. However, this measure can be misleading in turbulent times. The shutdown of low-productivity firms boosts the economy's average productivity, but does not improve competitiveness at surviving firms. Economy-wide unit labor cost measures can be particularly misleading when downturns are concentrated in low-productivity sectors such as construction. For example, much of the measured decline in Spain's unit labor costs over the past several years stems from the country's construction crash.

Evaluating competitiveness through wage or price measures also misses other factors that dictate foreign sales. A firm can increase exports simply by devoting more attention and resources to foreign markets; it need not change its production costs relative to those of its competitors.

The Organisation for Economic Co-operation and Development (OECD) calculates a measure of competitiveness that looks at export outcomes instead of production costs. The measure assesses export growth adjusted for the strength of trading partners' economies. If exports grow more rapidly than trading partners' total imports, a country gains export market share; if exports grow more slowly, the country loses it.

By this metric, Spain and Portugal have done well in recent years, with exports growing 7 to 10 percent faster than trading partners' total imports from 2010 to 2013. This performance compares favorably with that of German exports, which grew 3 percent faster than trading partners' total imports. Italian exports, in contrast, fell behind by 2 percent, while Greece lost substantial market share, with exports growing 10 percent more slowly than destination market imports over the period.

implications for future growth by limiting productivity improvements (Chart 3). This disadvantage is particularly acute because the recent drop in investment came on the heels of an

^a The data are reported in an annex table of the OECD's *Economic Outlook*, put out twice a year. The table, labeled "Export Performance," is available at http://www.oecd.org/eco/outlook/economicoutlookannextables.htm.

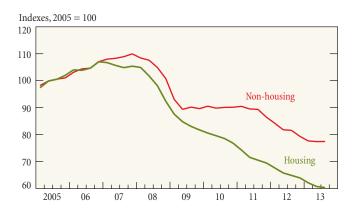
Table 2 **Saving, Investment Spending, and the Current Account**Percentage Change as a Share of GDP, 2010 to 2013

	Saving	Investment Spending	Current Account
Greece	6.8	-3.7	10.5
Italy	1.1	-3.0	4.1
Portugal	6.1	-4.6	10.7
Spain	0.7	-4.4	5.1
Germany	0.4	-0.3	0.7

Sources: Eurostat; Haver Analytics

Notes: Saving is defined as investment spending plus the current account balance. Data for 2013 are through the third quarter.

Chart 3 **Periphery Real Capital Expenditure**



Sources: Eurostat; Haver Analytics.

Notes: The periphery here includes Italy, Spain, Greece, and Portugal. Data are through 2013:Q3.

already large drop in 2008 and 2009—during the Great Recession but before the euro area crisis took hold.

Financing Capital Flight inside a Monetary Union

Recent events in the euro area share many of the features of a typical balance of payments crisis, which begins with a loss of investor confidence in domestic assets. The result is a fire sale, with investors rushing to convert their portfolios of local currency assets into dollars and other liquid foreign currencies. A central bank committed to a fixed exchange rate must meet the surge in demand for foreign currencies by selling its own foreign currency reserve holdings into the market.⁴

Indeed, the central bank's failure to supply foreign currency as demanded at the prevailing exchange rate would amount to abandoning that rate. In the end, an ongoing loss of foreign exchange reserves often forces the central bank to devalue the domestic currency or move to a floating exchange rate regime. In a similar scenario, a fire sale of domestic assets hit the euro area periphery. But as we explain below, the payments arrangements in the euro area made the sale of foreign exchange reserve assets unnecessary.

In 2011 and the first half of 2012, the scale of capital flight from the periphery was remarkable. For example, foreign investors from both inside and outside the euro area unloaded a total of €224 billion in Spanish assets during this period (Table 3). (Sales are listed as negative values under "inflows.") Foreign investors also made sizable liquidations of assets in Greece, Italy, and Portugal in the period, bringing the total to €525 billion. More detailed data would show that the pullback was largest for portfolio assets, a broad category that includes sovereign bonds and notes and private security instruments other than derivatives. In addition, foreign investors liquidated sizable investments in bank loans and other periphery assets. Meanwhile, investors located in the periphery added to the net capital outflow by buying foreign assets. The result was to boost the net value of private funds exiting the periphery to some €676 billion. A similar rush to the exits by investors, after an earlier period of abundant financial inflows, has set off many past balance of payments crises.⁶

Capital flight ended over the summer of 2012 with investors taking heart from a July statement by European Central Bank (ECB) President Mario Draghi that the bank stood ready to do "whatever it takes" to support the euro. Further reassurance was provided by the announcement in August of the Outright Monetary Transactions program, under which the ECB would backstop sovereign bond markets for countries in compliance with fiscal adjustment programs. In the second half of 2012 as a whole, reported sales of periphery assets by foreign investors shrank to just €43 billion, while investors located in the periphery shifted to selling some of their foreign holdings and bringing the proceeds home. The result was to leave the periphery with a small net capital inflow of €8 billion. Foreign investors even made a tentative return to periphery markets in 2013.

⁴ For brevity, in what follows, we will refer to central banks as maintaining a fixed exchange rate when we mean a fixed or closely managed exchange rate. Examples of close management include regimes in which the exchange rate is allowed to adjust only very gradually—a so-called crawling peg—or allowed to vary only within a limited corridor.

⁵ For a general overview of balance of payments crises, see "IMF Crisis Lending" on the International Monetary Fund's web site (http://www.imf.org/external/np/exr/facts/crislend.htm). For a more formal description of currency crisis models, see Glick and Hutchinson (2011). Kaminsky (2006) provides a systematic empirical typology of currency crises.

⁶ Indeed, relative to GDP, recent capital flight from the periphery has been far larger than the flight that precipitated changes in currency regimes during the most notable balance of payments crises of the past twenty years. This includes the 1992-93 ERM crisis affecting Italy, Spain, and the United Kingdom; the 1994-95 Mexican crisis; the 1997-98 Asian crisis affecting Indonesia, Korea, the Philippines, and Malaysia; the 1998 Russian crisis; and the 2000-02 Argentine crisis.

Table 3 **Periphery Private Financial Flows**

Billions of Euros

	Inflows	Outflows	Net Inflows (Difference)	
Greece				
2011	-52	-11	-41	
2012:H1	-41	29	-70	
2012:H2	-14	16	-30	
2013	-7	-17	10	
Italy				
2011	-79	39	-118	
2012:H1	-55	18	-73	
2012:H2	-7	-28	21	
2013	26	18	8	
Portugal				
2011	-42	-16	-25	
2012:H1	-32	-1	-31	
2012:H2	-10	-8	-2	
2013	-21	-11	-10	
Spain				
2011	-59	36	-95	
2012:H1	-165	57	-222	
2012:H2	-11	-30	19	
2013	6	-44	50	
Total				
2011	-232	49	-280	
2012:H1	-293	103	-396	
2012:H2	-43	-51	8	
2013	4	-55	58	

Sources: National statistical agencies and central banks; Haver Analytics.

Notes: Net foreign exchange reserve transactions are included in private outflows. Data for 2013 are through the third quarter.

How were periphery countries able to finance nearly €700 billion in capital flight in 2011 and the first half of 2012? In the case of Spain and Italy, the needed financing came largely or entirely from Target2, the euro area's facility for the settlement of cross-border payments between banks inside the monetary union. Target2—the Trans-European Automated Real-Time Gross Settlement Express Transfer System—automatically extends payments credits to central banks in countries where payments deficits are causing an outflow of commercial bank reserves. 7 In particular, net outflows from private commercial banks in a given country are matched by credits to that country's

central bank, with the credits extended collectively by central banks elsewhere in the euro area. Although Greece and Portugal primarily relied on adjustment loans from European Union institutions and the International Monetary Fund to offset the flight of foreign capital, they also benefited from payments credits provided through the Target2 system.

The mechanics of Target2 transactions can be explained through a simple example. When a Spanish resident writes a check to a German company to make a purchase, the check is cleared through a transfer of bank reserves (clearing balances) from the Spanish commercial bank to a German bank. The transfer is accomplished through a matching central bank transaction within the Eurosystem—the organization, as we noted earlier, that embraces both the ECB and the euro area central banks. In our example, the Bundesbank would acquire a claim on the Eurosystem, and the Banco de España would incur an equal liability. A country's Target2 balance over a given period is simply the net sum of all payment flows involving other euro area countries. There are no provisions for settling Target2 balances between central banks and no restrictions on the size of those balances. (For more detailed information on Target2, see Box 2.)

Understanding the role of Target2 during the euro area crisis requires a review of how all capital flows fit into the overall balance of payments. Transactions are broken down into two categories: the *current account*, for transactions in goods and services, and the *financial account*, for investment and lending transactions. By construction, the current and financial accounts should sum to zero. (Discrepancies in reporting and the generally trivial capital account mean that this rule does not usually hold exactly.) After all, a country that imports more than it exports is spending above its income and must attract an inflow of foreign financing to make up the difference.

Table 4 summarizes recent financial account transactions in the euro area periphery, placing data on net official inflows alongside the data on net private inflows discussed above. (Thus, the first column in the table repeats the third column in Table 3.) Official flows are divided into two categories: adjustment assistance provided to periphery countries by European Union institutions and the International Monetary Fund, and payments credits provided collectively by central banks in the euro area via Target2.

Now consider developments in Greece in 2011 and the first half of 2012. Over the period, the country still needed to borrow from abroad, running a financial account surplus totaling €24 billion. Yet private investors were fleeing during this period, pulling €111 billion out of the country, for a financing gap of €135 billion. The bulk of the gap was filled by €116 billion in adjustment loans from European Union institutions and the International Monetary Fund. The remainder, or some €19 billion, was filled by Target2 credits.

 $^{^{7}\,}$ The Bundesbank (2011) has a useful discussion of Target2, including its connection to balance of payments data.

Box 2 Target2

The availability of automatic, open-ended payments through Target2 is part of the infrastructure needed to support a multicountry currency union. There are no explicit limits on a country's Target2 liabilities since that would amount to a potential stop-payment order on cross-border transactions. That is, checks drawn on banks in the affected country would no longer be valid elsewhere in the euro area once the limit was reached. Countries could not share a common currency under such an arrangement. Nevertheless, the private stock of collateral that a bank can use in refinancing operations with euro area central banks does create an implicit limit since running out of collateral means that the bank no longer has additional funds to send abroad.

The risk to the Eurosystem from cross-border imbalances is limited by the collateral posted in refinancing operations. In accordance with Eurosystem rules, central banks book collateral at current market value, with local commercial banks subject to margin calls to offset drops in market value. In addition, substantial haircuts are applied to lower-rated securities. If a Eurosystem counterparty defaults and the collateral posted does not realize the full value of the refinancing operation, then any losses would be shared by the Eurosystem as a whole rather than by creditor central banks. The Bundesbank, for example, would bear roughly 27 percent of any losses, in line with its share in the Eurosystem.

Italy and Spain also continued to borrow in 2011 and the first half of 2012, despite a massive pullback on the part of foreign private investors. For these countries, however, the resulting financing gap was filled almost entirely by Target2 credits, which totaled €274 billion in Italy and €357 billion in Spain. All told, periphery countries were extended €665 billion in Target2 credits over the period, about four times the scale of official adjustment assistance. The corresponding credit positions were held largely by the Bundesbank, but central banks in Luxembourg and the Netherlands also held substantial credits.

Target2 balances have receded considerably since summer 2012, in line with the end of capital flight from the periphery. Still, Spain has a liability position in Target2 of €241 billion, with Italy next in line with €215 billion (Chart 4). Liability positions elsewhere in the periphery are also still sizable.

Our review of financial account transactions in the periphery clarifies an important point: Target2 credit played a role similar to that of foreign exchange reserves in a typical balance

Table 4

Financial Flows in the Euro Area Periphery

Billions of Euros

	Net Private Inflows	Adjustment Assistance	Target2 Credit	Financial Account (Sum)
Greece				
2011	-41	42	18	18
2012:H1	-70	75	1	6
2012:H2	-30	34	-8	-3
2013	10	32	-46	-4
Italy				
2011	-118	0	191	73
2012:H1	-73	0	83	9
2012:H2	21	0	-19	2
2013	8	0	-22	-14
Portugal				
2011	-25	34	1	10
2012:H1	-31	19	13	2
2012:H2	-2	8	-8	-2
2013	-10	4	2	-3
Spain				
2011	-95	0	124	29
2012:H1	-222	0	233	12
2012:H2	19	40	-71	-12
2013	50	2	-69	-17
Total				
2011	-280	76	334	129
2012:H1	-396	94	331	29
2012:H2	8	82	-106	-16
2013	58	38	-134	-38

Sources: National statistical agencies and central banks; Haver Analytics.

Notes: Net foreign exchange reserve transactions are included in private outflows. Data for 2013 are through the third quarter.

of payments crisis. Faced with a sudden reversal of capital flows, a central bank committed to a fixed exchange rate must sell its foreign exchange reserve assets into the market to finance both the current account deficit and net private financial outflows. Target2 credit filled the financing gaps in the periphery in much the same way, except that the central bank saw its external liabilities increase rather than its assets fall. In both cases, the central bank's external net asset position shrinks.⁸

^a Bank flows across Federal Reserve Districts in the United States clear through a somewhat similar infrastructure called the interdistrict settlement account (ISA). Net flows out of one district into another are reflected as debits and credits on the balance sheet of individual Federal Reserve Banks as part of the Federal Reserve System. A discussion of similarities and differences between Target2 and ISA can be found in Bijlsma and Lukkezen (2012).

^h See Bindseil, Cour-Thimann, and Konig (2012).

⁸ To push the point further, the extension of Target2 credit recorded in Germany's financial account (not shown) is akin to what occurs when a country with a fixed exchange rate increases its foreign exchange reserves in the face of a capital inflow.

Chart 4

Net Claims on the Eurosystem



Sources: National central banks.

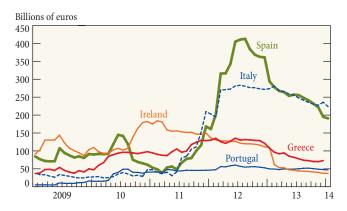
Notes: Positive values for Italy and Spain early in the sample are not shown in debtor total. Data are through December 2013.

Supporting a Banking System Losing Reserves

Target2 financing also helped the periphery countries to moderate the contraction in domestic credit that ordinarily stems from capital flight. Payments outflows drain reserves from the commercial banking system, reducing banks' lending capacity. A central bank could respond by supplying new reserves to commercial banks through expanded refinancing operations. Banks would then have the liquidity to meet payments outflows. But by providing additional fuel for capital flight, such an action would simply make the central bank's foreign exchange constraint bite all the sooner. In effect, capital flight leaves the central bank with an either-or choice. It can defend the currency or support the banking system; it cannot do both.

In the euro area periphery, however, central banks faced less unforgiving choices. Most important, they were able to meet payments outflows by drawing on Target2. The automatic and open-ended character of Target2 credit meant that central banks in the periphery were not pushed up against a binding foreign exchange constraint. The absence of this constraint enabled periphery central banks to take meaningful steps to support their banking systems by expanding their refinancing operations, creating new bank reserves for commercial banks against pledged collateral. Policy moves by the ECB also helped, with the governing council acting several times to widen the collateral pool eligible for refinancing. (Under the euro

Chart 5
Periphery Banks: Use of Central Bank Credit



Sources: European Central Bank; national central banks.

Note: The values plotted for Greece include funding from the European Central Bank and estimated emergency liquidity assistance from the national central bank.

area's decentralized system, major policy decisions are made collectively, but central bank credit operations are carried out at the national level.) The effects of these actions are evident in Chart 5. The jump in central bank credit to commercial banks was most pronounced in Spain and Italy, the countries seeing the largest bank reserve outflows. Without this central bank lifeline, commercial banks would have been forced to sell off assets to foreign investors to offset the cross-border loss of bank reserves. The opposite trend holds in Germany, with commercial banks responding to the heavy reserve inflows by reducing their borrowings from the ECB.

More recently, the reliance of periphery commercial banks—particularly those in Spain—on central bank credit has tapered off in line with the end of capital flight. To be sure, credit conditions in the periphery are tight, with capital-starved commercial banks reluctant to lend. But credit conditions would have been far tighter absent Target2 credit to periphery central banks and the central bank refinancing lifeline to commercial banks.

Conclusion

The euro area periphery countries relied heavily on foreign borrowing to propel their countries forward after joining the monetary union. Membership in the monetary union significantly lowered borrowing costs, and these countries responded by upping their consumption and investment spending. Subsequently, the 2008 global recession showed that leverage and debt had adverse consequences and, in 2010, worries about the sustainability of Greek sovereign debt spilled over to concerns about the ability of other euro area countries to repay their debt.

We argue that the euro area crisis is best viewed as a balance of payments crisis triggered by an overreliance on

⁹ That central banks can choose only two of three options from among a fixed exchange rate, an independent monetary policy, and the free movement of capital holds true in standard macro models, and is commonly referred to as the Impossible Trinity. (The third option reflects the fact that a central bank maintaining a fixed exchange rate and facing capital flight could sidestep monetary tightening simply by forbidding outbound capital flows.) The theoretical underpinnings for this result were worked out independently by Robert Mundell and Marcus Fleming in the early 1960s.

foreign capital. As in a typical balance of payments crisis, the periphery countries suffered painful contractions in domestic spending, both public and private, as they struggled to cope with the end of foreign borrowing. In addition, the countries' domestic financial systems suffered from massive capital flight as investors sought to pull their money out.

One feature that distinguished the euro area crisis from other balance of payments crises, however, was the role played by the settlement system for euro area central banks. The same Target2 mechanism that addresses routine imbalances in financial flows and ensures the smooth operation of the euro area payments system also filled in the balance of payments financing gap caused by the retreat of investors from the periphery economies. In particular, the Target2 mechanism offset private cross-border outflows with credits extended by euro area central banks to central banks in the periphery. These credits were a major factor in easing current account adjustment pressures on the periphery countries.

The hope now is that the restoration of external balance in these countries will set the stage for meaningful recoveries. The recent behavior of investors, evident in balance of payments data, is encouraging. Private investors have stopped pulling money out of periphery countries and the amount of credit extended by euro area central banks to periphery central banks is

shrinking. Still, the debt burden from past borrowing remains—a fact that argues for caution about the periphery outlook.

References

Bijlsma, Michiel, and Jaspers Lukkezen. 2012. "Why Is there No Target2 Debate in the US?" Bruegel blog. Available at http://www.bruegel.org/nc/blog/detail/article/729-why-is-there-no-target2-debate-in-the-us/.

Bindseil, Ulrich, Philippine Cour-Thimann, and Philipp Konig. 2012. "Target2 and Cross-border Interbank Payments during the Financial Crisis." *CESifo Forum 2012*, special issue. CESifo Group. Available at http://www.cesifo-group. de/portal/pls/portal/docs/1/1213646.PDF.

Deutsche Bundesbank. 2011. "The Dynamics of the Bundesbank's Target2 Balance." *Monthly Report* 63, no. 3 (March): 34-5. Available at http://www.bundesbank.de/Redaktion/EN/Downloads/Publications/Monthly_Report/2011/2011_03_monthly_report.pdf?__blob=publicationFile.

Glick, Reuven, and Michael Hutchinson. 2011. "Currency Crises." Federal Reserve Bank of San Francisco Working Paper no. 2011-22. Available at http://www.frbsf.org/economic-research/files/wp11-22bk.pdf.

Higgins, Matthew, and Thomas Klitgaard. 2011. "Saving Imbalances and the Euro Area Sovereign Debt Crisis." Federal Reserve Bank of New York *Current Issues in Economic and Finance* 17, no. 5. Available at http://www.newyorkfed.org/research/current_issues/ci17-5.html.

Kaminsky, Graciela. 2006. "Currency Crises: Are They All the Same?" *Journal of International Money and Finance* 25, no. 3 (April): 503-27.

Laeven, Luc, and Fabian Valencia. 2013. "Systemic Banking Crises Database." *IMF Economic Review* 61, no. 2 (June): 225-70. Available at http://econpapers.repec.org/article/palimfecr/v_3a61_3ay_3a2013_3ai_3a2_3ap_3a225-270.htm.

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