

Major Themes in Economics

Volume 13

Article 4

Spring 2011

Current Account Imbalances Within the Eurozone

Tom Augspurger

University of Northern Iowa

Follow this and additional works at: <https://scholarworks.uni.edu/mtie>

 Part of the [Economics Commons](#)

Let us know how access to this document benefits you

Copyright ©2011 by Major Themes in Economics

Recommended Citation

Augspurger, Tom (2011) "Current Account Imbalances Within the Eurozone," *Major Themes in Economics*, 13, 23-49.

Available at: <https://scholarworks.uni.edu/mtie/vol13/iss1/4>

This Article is brought to you for free and open access by the Journals at UNI ScholarWorks. It has been accepted for inclusion in Major Themes in Economics by an authorized editor of UNI ScholarWorks. For more information, please contact scholarworks@uni.edu.

Current Account Imbalances Within the Eurozone

Tom Augspurger

ABSTRACT. Widening Current Account imbalances were a key feature of the run-up to the global financial crisis. Within the European Monetary Union, large surpluses and deficits emerged among member countries. The imbalances were initially viewed as evidence of the success of the Euro, but they continued to grow and contributed to the recent financial crisis. The problem of imbalances is still with us today and could hamper future growth in the deficit countries.

I. Introduction

The early years of this millennium saw large increases in current account imbalances within the Eurozone. Initially, the imbalances were viewed as vindication of the Euro's success; the introduction of the Euro, coupled with financial-services innovations, allowed capital to flow freer than ever before among Eurozone countries. Increased capital mobility would increase welfare for borrowers and financiers alike. Recently, however, imbalances have been criticized for contributing to macroeconomic instability and the global financial crisis. It is now evident that much of the capital inflows to deficit countries went to financing consumption rather than investment in productive assets.

Going forward, the Eurozone will need to rebalance. Deficit countries built up large amounts of debt that must be repaid, which will require future Current Account surpluses. To facilitate this in a time of depressed global demand, surplus European countries must move toward deficit to assist in the Eurozone's rebalancing. The adjustment will be difficult, made even more so because of monetary union.

I.1 A Brief History of the Euro

At least since the aftermath of World War II, European economic integration has been a stated goal of European policymakers. They acknowledged protectionism and nationalist policies as threats to a stable Europe. The modern European Economic and Monetary Union began to take shape in 1970 with the Werner Report, which advocated three stages of economic integration: free capital flows, Central Bank coordination,

and irrevocably fixed exchange rates—embodied, possibly, in a common currency (Burton 2011).

The treaties regulating Euro area government are numerous; for our purposes, the two most important are the Maastricht Treaty (1992) and the Stability and Growth Pact (1997). The Maastricht Treaty founded the European Union (EU) and enacted Werner’s three-stage process. The goal was no less than Economic and Monetary Union (EMU) and the completion of a single European market. In exchange, countries would cede some of their sovereignty to the European Union and the European Central Bank (ECB). Central Banks of member countries would help achieve the goal by coordinating monetary policy and regulation (EU 2007).

The Stability and Growth Pact was signed to ensure the health of public finances prior to launching the Euro. Member countries agreed to limit public deficits to 3% of GDP and public debt to 60% of GDP. Non-compliant members would be subject to sanctions (European Commission 2010). The Stability and Growth Pact aimed to preserve the integrity of the Union by ensuring that public finances could not degrade limitlessly, thus jeopardizing the sanctity of the Euro.

In 1999 the Euro was introduced. All of the Eurozone countries (countries whose official currency is the Euro) discussed here joined in 1999 except Greece, which joined in 2001.

Since the inception of the Euro, a division arose between two sets of countries. The first set consists of Germany, Austria, Finland, and the Netherlands, and will be referred to as the “North.” The second set of countries includes Portugal, Ireland, Greece, and Spain and will be referred to as the “South” (I’m well aware that if you look at a map Ireland is north of Germany, Austria, and the Netherlands; don’t blame me, I didn’t come up with the names). The North is characterized by large, persistent Current Account surpluses, while the South is characterized by large, persistent Current Account deficits.

I.2 National Accounts

For our purposes, a country has two important national accounts: The Current Account (CA) and the Capital Account (KA). Readers experienced with Balance of Payments accounting can skip this section.

The Current Account Balance reflects the difference between a country’s exports and imports of goods, services, investment income, and

unilateral transfers (Yarbrough & Yarbrough 2006, 408). Note that the Current Account is *not* composed only of trade in goods and services, *i.e.* the Trade Balance; for some models the Current Account is simplified into the Trade Balance. I'll warn you when doing so.

The Current Account is composed of a list of credits and debits. An export (or credit) reflects a unilateral transfer, investment income, or an inflow of payments in exchange for an outflow of goods or services. An import (or debit) reflects an outflow. The Current Account is in deficit if the sum of the credits is less than the sum of the debits (*i.e.* $CA < 0$ implies a deficit). The reverse is true for a Current Account surplus; the sum of the credits is greater than the sum of the debits. By way of example, suppose the U.S. exports \$1,000 worth of goods and imports \$1,500 worth of goods; it has a Current Account deficit of \$500 (or a Current Account balance of negative \$500). That is, \$500 have flown abroad from the U.S. Now suppose that the U.S. exports an additional \$2,500 worth of services. The total Current Account would then be:

| Exports | (Imports) | CA Balance = Exports minus Imports |
|-------------------|-----------|---------------------------------------|
| \$1,000 + \$2,500 | \$1,500 | \$2,000 |

All the exports are added together and the imports are subtracted. Note that the U.S. has moved into surplus because the Current Account balance is positive.

An example of investment income, one of the components of the Current Account, is dividends earned from ownership of foreign assets. For example, suppose a Spanish investor holds stock of Deutsch Bahn, listed on the Frankfurt stock exchange. A dividend payment would enter the Spanish Current Account as a credit because it involves a flow of money from Germany to Spain (just like an export involves a flow of money into the country). From the German perspective, this same transaction is represented as a debit because it involves the flow of money from Germany to Spain. Investment income does *not* include flows of *new* investment, only income from existing investment. Flows of new investment would show up in the Capital Account, defined next.

The other important national account, the Capital Account (KA), "records international borrowing and lending and purchases and sales of

assets” (Yarbrough & Yarbrough 2006, 413). The Capital Account Balance is the difference between capital inflows and capital outflows. If inflows are greater than outflows, the Capital Account is in surplus. If inflows are less than outflows, the Capital Account is in deficit. An example of a capital outflow is, from the standpoint of the U.S., the purchase of a foreign asset by a U.S. resident. This transaction would move the Capital Account into deficit. It’s helpful to think of the transaction as the U.S. “importing” the title on the asset in exchange for the outflow of capital.

Because of how the Current Account and Capital Account are defined, the two must sum to zero. To see why, consider this example: an Austrian resident exports €1,000 worth of goods to a Spanish resident, who pays for them with a €1,000 check against a checking account at a Spanish bank. From the Austrian point of view, the €1,000 export is entered as a credit in the Current Account, so the surplus is €1,000. The check obtained by the Austrian exporter represents a capital outflow (because it is held in a foreign bank), so it is entered in the Capital Account as a €1,000 debit. The net result of the transaction is a Current Account of €1,000 and a Capital Account of negative €1,000. To generalize, Current Account + Capital Account = 0, or alternatively, Current Account = - Capital Account

For the purposes of this paper, it won’t hurt to view a Current Account deficit as the country as a whole spending more than it earns. The excess of spending over income is made possible by an inflow of capital, captured in the Capital Account. In this sense, the Current Account is analogous to a person’s checking account. His income (exports, returns on financial investments—but not on their sale) increases his balance. Expenditure (imports, interest payments) decreases his balances. He can run a surplus and lend the excess to a bank (abroad), or he can run a deficit and borrow from a bank (abroad), or run down existing savings.

It may also be helpful to think in terms of the National Income equation:

$$Y = C + I + G + X - M \quad (1)$$

where Y = Income (or GDP), C = private consumption, I = private investment, G = government purchases of goods and services, X = exports, and M = imports. The equation can be simplified slightly (one of those simplifying assumptions I warned about earlier) by solving for

net exports ($CA = X - M$).

$$Y = C + I + G + CA \quad (2)$$

The Current Account can be viewed through the lens of the Savings-Investment relationship. Equation 2 can be rewritten as:

$$Y - C - G = I + CA \quad (3)$$

and $(Y - C - G)$ is simply national Savings (S). So this equation can be rewritten:

$$S = I + CA \quad (4)$$

or

$$S - I = CA \quad (5)$$

If a country saves more than it invests, it has a Current Account surplus and a Capital Account deficit.

These accounting identities say nothing at all about the different behavioral relationships that determine national income and the Current Account or Capital Account. They are, however, useful for clarifying one's thought about where certain actions show up in the economy.

I.3 Current Account Imbalances around the World

The literature on global Current Account imbalances is extensive, so a brief survey will have to do here. Ben Bernanke's "global savings glut" hypothesis (Bernanke 2005) argues that some emerging-market economies, by deliberately pursuing export-oriented growth, created an excess fund of savings that had to be absorbed by Current Account deficits in the developed world.

Trouble arises when the deficit countries cannot safely absorb the capital inflows. Bernanke (2011) highlights two sources of instability: first, when the "rules of the game" of the international financial system are not observed (such as when France and the United States kept their currencies undervalued in the interwar period); and second, when the financial system cannot productively allocate the capital inflows. The

second type of instability will be more important for our case study.

There are some traits of Current Account imbalances that are exclusive to currency unions. These traits, both positive and negative, will be a recurring theme throughout this paper.

I.4 Current Account Imbalances in the Euro Area

Shortly after the adoption of the Euro (1999 for most countries, 2001 for Greece), the Current Accounts of the Northern and Southern countries diverged. The size of the Current Account imbalances increased rapidly from 2002 until 2008, when the global financial crisis reversed the trend somewhat. This is shown in Figure 1 (IMF World Economic Outlook Database 2010). The shaded area indicates a forecast.

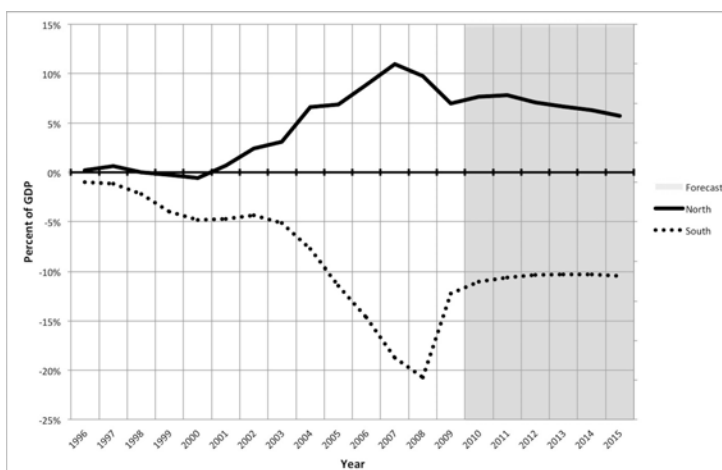


Figure 1: Current Accounts as a Percentage of GDP (IMF WEO 2010).

The two curves roughly mirror each other, so in aggregate the Current Account surpluses of the North were more or less canceled out by the Current Account deficits of the South.

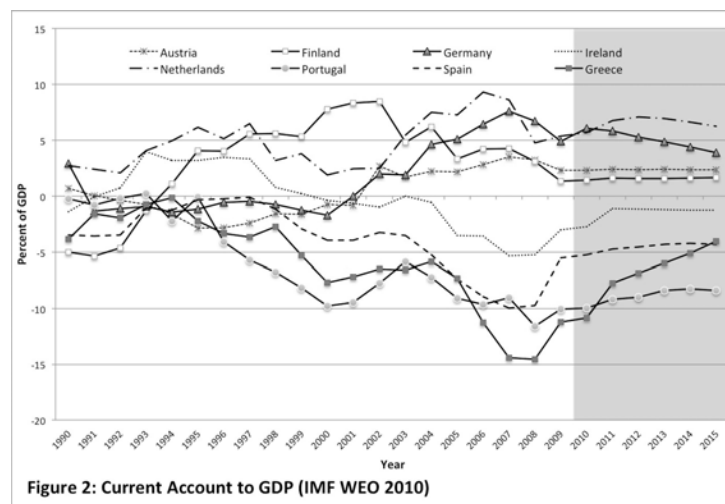
Figure 2 shows the same calculation, but broken into individual countries (IMF WEO 2010). Again, the shaded area is a forecast.

II. The Classical Explanation

In what I am calling the “Classical” explanation, Current Account

imbalances are viewed as proof of the success of the Euro. This view is perhaps best formulated by Oliver Blanchard and Francesco Giavazzi (2002). In discussing the then already large Current Account deficits of Portugal and Greece, they note that the deficits

are exactly what theory suggests can and should happen when countries become more closely linked in goods and financial markets. To the extent that they are the countries with higher rates of return, poor countries should see an increase in investment. And to the extent that they are the countries with higher growth prospects, they should also see a decrease in saving. Thus, on both counts, poor countries should run larger current account deficits. Symmetrically, richer countries should run larger current account surpluses (Blanchard & Giavazzi 2002).



That is, the Current Account imbalances are a natural consequence of adopting the Euro. Standard Neoclassical theory predicts that capital ought to flow to where it is scarcer. The “completion of the single market” (a common buzz-phrase in Eurocratese) encourages this flow. Residents of poorer countries, seeing this capital inflow and anticipating higher future growth, should anticipate higher future incomes and smooth their consumption by saving less now. The cumulative result is a rise in

investment and a decline in savings, and thus a Current Account deficit for the poorer countries.

Monetary Union will encourage larger Current Account imbalances by removing two major barriers to trade and capital flows: currency risk and conversion costs. Currency risk refers to the possibility that the bilateral exchange rate between you and your trading partner can change, harming your return. In a currency union, nominal exchange rates are locked at 1:1. The second cost, conversion costs, comes from the need to exchange domestic currency for foreign currency. For example, in the past if you lived in Germany and wanted to buy a French good, the French exporter would want francs, requiring you to exchange Deutsche marks for francs. This costs both time and money. With the Euro, the need for currency conversion is removed. Financial innovations facilitate the flow of capital from creditor to debtor by lowering transaction costs and exposing savers to new sources of investment and borrowers to new sources of financing.

Blanchard and Giavazzi concluded that the data supported their hypothesis: the adoption of the Euro was a success because it had removed barriers to the flow of capital. The large and sustained Current Account imbalances were just a natural byproduct of attaining a new equilibrium.¹

Another reason to support a benign view of Current Account Imbalances is given by the Balassa (1964)-Samuelson (1964) effect. As incomes and productivity converge, we would expect to see above average inflation in the Current Account deficit countries. More openness should lead to productivity gains in the tradable sector of the poorer countries as capital inflows and increased competition pushes them to higher productivity. This should lead to an increase in wages. To the extent that labor is substitutable between the tradable and non-tradable sectors, higher wages in the tradable sector will lead to higher wages in the non-tradable sector. The overall result is an increase in the price level if the increase in non-tradable wages is greater than the decrease in prices of tradable goods (Lommatzsch & Tober 2006).

As a country's price level rises, its exports become less competitive and more expensive on the international market, while imports become relatively less expensive. This would encourage more imports and fewer exports, and so a move toward Current Account deficit. The price level will eventually settle at a new, higher level. Thus the classical explanation has a built-in stabilization mechanism; prices and inflation

will converge as incomes converge. Current Account deficits and above average inflation are simply byproducts produced by moving to a new equilibrium (Ayuso et. al. 2004). A policy response is neither required nor desired.

III. Problems with the Classical Explanation

The first thing to note is that in the decade following the Blanchard & Giavazzi paper, Current Account imbalances widened. Second, both Blanchard and Giavazzi, previously exponents of the classical view, have since altered their position. Blanchard recognized that Current Account imbalances may be greater than warranted by fundamentals, but stopped short of encouraging national policy makers to counteract them (Blanchard 2006). Giavazzi has gone even further and called for policy reactions to the imbalances noting that, “[t]he current account position[s] ... have always been neglected both in the academic debates on and in the policy management of the Euro area” (Giavazzi & Spaventa 2010).

Overall, the story has not played out as predicted. Incomes have not converged, productivity gains have not emerged, and problems that were largely unforeseen have cropped up in the meantime. I will address these issues in the sections that follow.

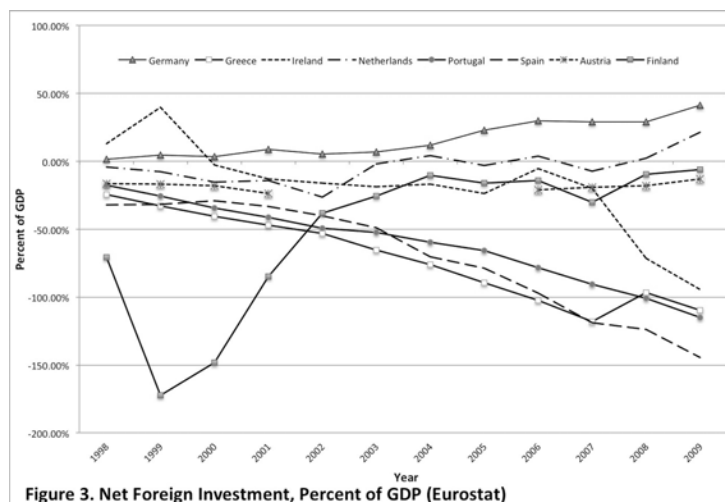
Bear in mind that the causes of Current Account deficits are probably unique to each country. Ireland had a massive financial crisis, Greece did not. Spain and Ireland had huge property bubbles, while Portugal did not. Greece’s public sector was undisciplined, but Spain and Ireland’s were exemplars. It is probably impossible to list causes and assign weights proportional to their relative importance in causing deficits (something some econometric papers have tried to do), without losing some important nuance along the way. At best, we can recognize factors that probably had an effect for that time and place and, with any luck, formulate policies to prevent them in the future.

III.1 The Current Account and Foreign Indebtedness

The Current Account is a flow variable, and the stock into which it flows is the country’s net foreign investment position. To oversimplify a bit, the current account is the change in a country’s net foreign investment position.² A deficit increases liabilities, while a surplus increases assets. Figure 3 (Eurostat) shows the net foreign investment position of our eight

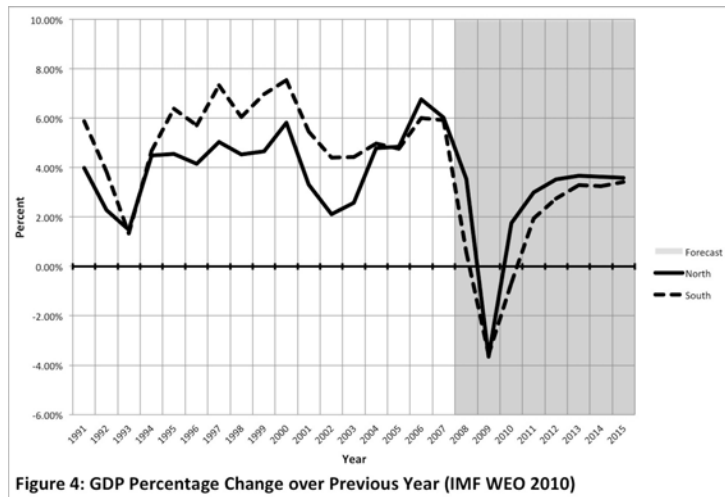
countries (data for Austria is missing from 2002-2005, although their position seems to have been fairly stable. Sincerest apologies).

As expected, the deficit countries accumulated debt throughout the decade. Servicing this debt may be difficult for the Southern countries, especially considering that incomes are disappointingly low.

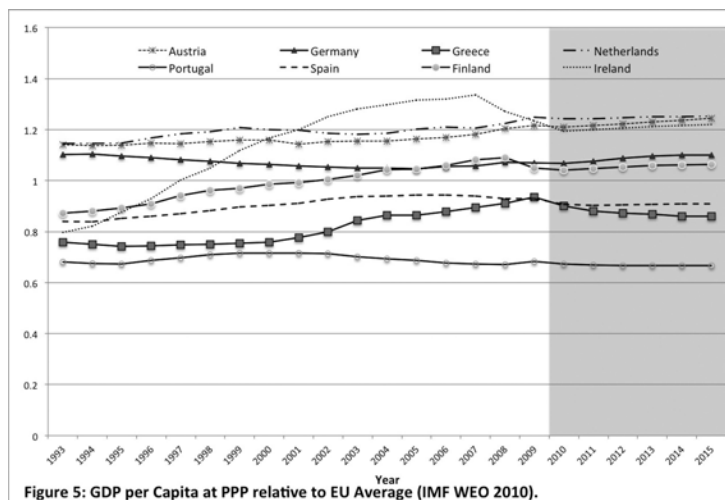


III.2 Income Convergence

A key assumption in the classical explanation is that the borrowing associated with today's Current Account deficit is to be repaid out of higher future income. Figure 4 (IMF WEO Database 2010) shows the growth rates in GDP at purchasing power parity from 1990 until 2010. The growth rate of the South was higher than the North before joining the Euro. After joining, the growth rates more or less aligned. It would be rash to say that joining the Euro caused lower growth in the South, but the classical explanation predicted *higher* growth in the South, not this.



If we break that graph into its individual components, the story is slightly different. Figure 5 (IMF WEO 2010) shows the GDP per capita of each Southern country relative to the Euro average of the same year, all at purchasing power parity (note that Spain’s 2009 value is still preliminary; the rest are forecasts beginning in 2010). A value of one indicates average GDP per capita.



The growth of the Irish GDP per capita stands out, and has been dubbed the “Irish Miracle.” Holding this up as an example of convergence, however, would be suspect. Irish income already equaled the Euro average by 1997, well into the monetary union process, but two years before the Euro became the official currency (Giavazzi and Spaventa 2010). We’ve also seen that the party, the Current Account deficits that is, didn’t really start until 2000. Ireland actually had a modest Current Account surplus until 2000 (IMF WEO 2010). The flow of capital couldn’t have caused Ireland’s rapid catch-up because it occurred after Ireland had already caught up.³

While some of the gains Spain made in real income may have been illusory due to the property bubble, there is no denying that it made some progress. The real test, however, is yet to come. Spain’s response to its real exchange rate appreciation, which will be discussed later, will determine if its income will continue to converge, stagnate, or even relapse relative to the Euro average.

Greece also (probably) had income convergence. I say probably because Greek economic statistics should all be taken with an unusually large grain of salt because the statistics office fabricated data on government finances. In either case, the IMF is forecasting a decline in Greek real GDP per capita relative to the Euro average in the coming years.

Finally, there is Portugal, perhaps the saddest story in this picture. After a slight increase from 1995 until 2002, real GDP per capita has declined back to its 1993 level, relative to the Euro average. If nothing else, this emphasizes the difficulty of forecasting; remember, Portugal was the evidence Blanchard and Giavazzi used to support the conclusion that the Euro was encouraging convergence.

III.3 Public and Private Savings

As discussed earlier, a country’s Current Account can be viewed as the difference between Saving and Investment ($CA=S-I$). So a Current Account deficit can arise from, *cet. par.*, an increase in investment or a decline in savings. The Savings and Investment variables can both be decomposed into their public and private components:

$$CA = S_{public} - I_{public} + S_{private} - I_{private}$$

After joining the Euro, the public net savings of both the Northern and Southern countries moved toward, though not quite to, surplus. In the four years prior to monetary union (1995-1998), the South's public savings averaged negative 4.00% of GDP and the North averaged negative 2.94%. From 1999-2008, the South averaged negative 0.96% while the North averaged negative 1.39% (See Table 1).

TABLE 1—General Government Net Lending or Borrowing
(Percent of GDP)

| | 1995-1998 | 1999-2008 |
|-------|-----------|-----------|
| North | -2.94% | -1.39% |
| South | -4.00% | -0.96% |

IMF WEO Database 2010

Some of the improvement is due to stronger growth, and some is due to fiscal restraints imposed by the Maastricht Treaty (Holinski 2010). Part of the improvement was probably exaggerated by housing booms, leading to higher government revenues than fundamentally warranted. But the general premise still remains: during the development of Current Account deficits, Southern public sectors moved toward surplus. Greece is the black sheep here, having a government deficit of 6.4% of GDP in 2007. But at least in Portugal, Ireland, and Spain public sector deficits were not the driving force of growing Current Account deficits, which leaves us with the private sector.

Here the statistics are remarkable. The North's private net savings increased slightly, from an average of 4.2% of GDP to 4.8%. Meanwhile, the South's private net savings dropped from an average surplus of 5.0% to a deficit of 4.7% (Holinski 2010). These data are summarized in Table 2.

TABLE 2—Private Net Lending or Borrowing (Percent of GDP)

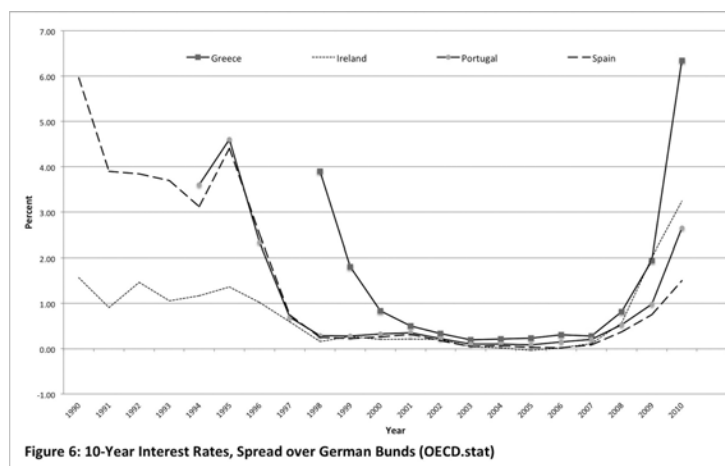
| | 1992-1998 | 1999-2007 |
|-------|-----------|-----------|
| North | 4.2% | 4.8% |
| South | 5.0% | -4.7% |

Source: Holinski 2010

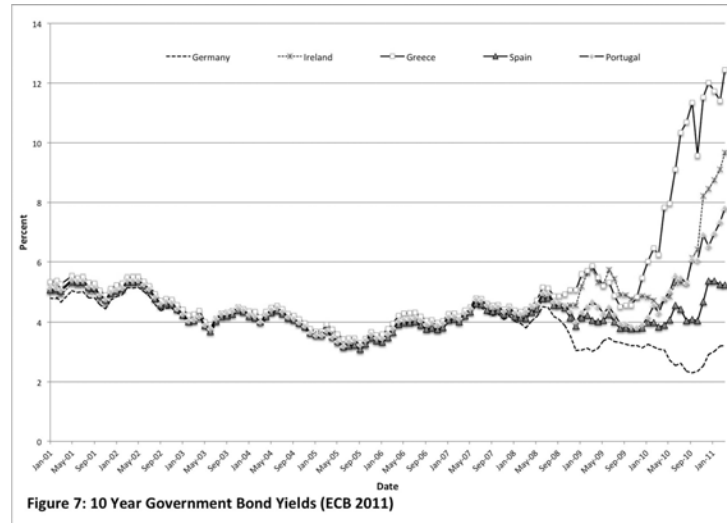
Decomposing the Current Account into its public and private components showed that, in aggregate, the private sector led the move toward Current Account deficits in the South. This highlights an important oversight by the planners of the European Monetary Union: *public* deficits were explicitly limited in treaties such as the Stability and Growth Pact (these limits were largely ignored, but that's another issue); *private* borrowing, which was not addressed, turned out to be the major destabilizer.

III.4 Interest Rate Convergence

The severe decline in private sector savings was at least partially a response to the convergence of long-term interest rates within the Eurozone. Figure 6 (OECD.stat) shows the 10-year government bond yields (a good proxy for country-wide interest rates) for Portugal, Ireland, Greece, Spain, relative to the 10-year German *bund*. A value of zero indicates that the Southern government can borrow at the same rate as the German government.



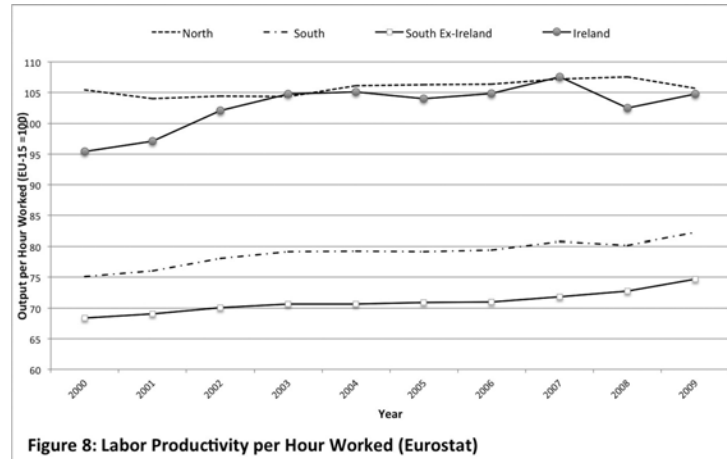
As can be seen, credit spreads narrowed around the time of monetary union. This represented a large interest rate shock to the Southern economies because, as Figure 7 (ECB 2011) shows, convergence came from a fall in Southern rates, not a rise in German rates.



Effectively, markets were assuming that Greece was just as creditworthy as Germany (until the financial crisis that is). Lower interest rates encouraged investment and borrowing. And, as we saw above, the private sectors of the South responded just as theory said they would. Savings rates fell while investment rose; Current Account deficits ensued.

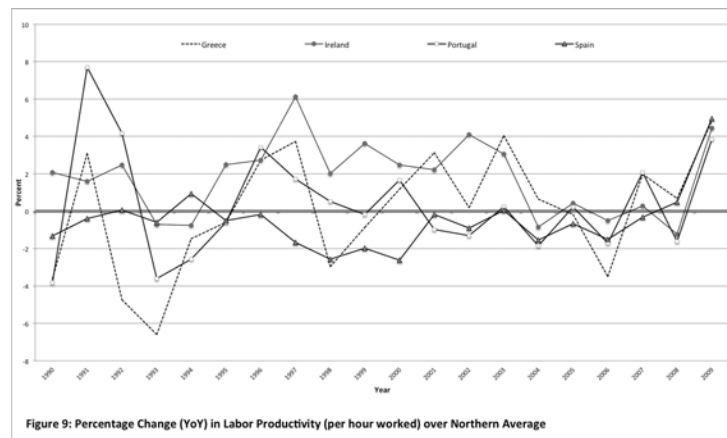
III.5 Labor Costs and Productivity

At least since Adam Smith, economists have recognized that productivity is integral to the wealth of a nation. It was hoped that the Euro would encourage productivity gains in the periphery countries (especially in the traded goods sector), bringing their standards up to that of the Northern core. Figure 8 (Eurostat) shows output per hour worked relative to the EU average. A value of 100 is average. I've included the series for the South and for the South excluding Ireland, whose labor productivity was already comparable to the North's by 2002.



Overall, there was productivity growth in the South, but the growth has been slow and the gap is still large.

Figure 9 (OECD.stat) paints a similar picture but in a different way. It shows the growth rates of labor productivity (percentage change, year-over-year), for Portugal, Ireland, Greece, and Spain relative to the Northern average. A value of zero indicates the same growth rate as the North.



Greece and Ireland did enjoy large gains in productivity. In Greece, this showed up in GDP per capita growth. In Ireland, where productivity was high to begin with, productivity growth did not keep up with GDP per capita growth (Giavazzi & Spaventa 2010). Portugal had slightly positive

productivity growth, although it slowed in the later part of the decade. Spain more or less had no productivity growth in absolute terms, and slid backwards against the North.

The literature suggests that a better measure of competitiveness may be productivity adjusted for Terms of Trade (TOT) effects.⁴ Ireland is excluded because of its already high productivity (just another example that the causes and consequences of Current Account deficits are varied).

Growth Variables (average annual percentage change) 1996-2006

| | Real GDP/Capita | Real GDP/Capita TOT Adjusted | Labor Productivity TOT Adjusted | Total Factor Productivity TOT Adjusted |
|-----------|--------------------|---------------------------------------|--|---|
| Greece | 3.6 | 3.7 | 3.0 | 2.2 |
| Portugal | 1.4 | 1.2 | 0.9 | 0.0 |
| Spain | 2.6 | 2.8 | 0.2 | 0.1 |
| Euro Area | 1.7 | 1.5 | 0.6 | 0.4 |

Bennett, et al. 2008

Greece had good income and productivity growth; its troubles stem from other causes. Spain had strong income growth, but the productivity growth wasn't there. Portugal had poor growth in productivity and income. Lack of productivity growth is important for two main reasons. First, it suggests (though it doesn't necessarily prove) that the borrowed funds were not invested in productive assets, a point discussed next. Second, productivity growth can justify above average inflation (remember the Balassa-Samuelson effect). We'll see later that the South had above average inflation. But above average inflation with below average productivity growth is troublesome in a monetary union. This second point is also discussed below.

III.6 The Intertemporal Budget Constraint

A country, like a consumer, can be thought of as having an intertemporal budget constraint (there are differences, but the analogy helps illuminate an important concept). The budget constraint says that today's borrowing

must be either refinanced (a difficult thing to do in the midst of a financial crisis), or repaid out of tomorrow's income. Repayment, for the country as a whole, requires Current Account surpluses. In our simple model that means exports must be greater than imports.

It is common to model the intertemporal budget constraint with a two country, two good model.⁵ The two (groups of) countries are Current Account creditors and Current Account debtors. The two (types of) goods are tradable and non-tradable. Tradable goods can be produced, bought, and sold (theoretically) anywhere in the world. Non-tradable goods can only be produced and consumed domestically. This type of two country, two good model stresses the distinction between investment in the production of tradable goods and investment in the production of non-tradable goods; investment in the non-tradable sector will do little to improve productivity in the tradable sector. If tradable-sector productivity is not improved, a debtor country will find it difficult to run future Current Account surpluses. As Giavazzi and Spaventa note,

an excess of foreign borrowing with the purpose of financing the production of non-traded goods is incompatible with a budget constraint... Insofar as non tradable goods by definition can only be consumed domestically, foreign financing for their production is equivalent to borrowing abroad for consumption purposes (Giavazzi and Spaventa 2010, 8).

When put this bluntly, it is easier to see how investment in the non-tradable sector will do little to bring about future Current Account surpluses. And without Current Account surpluses, the net foreign debt position of a country will only worsen.

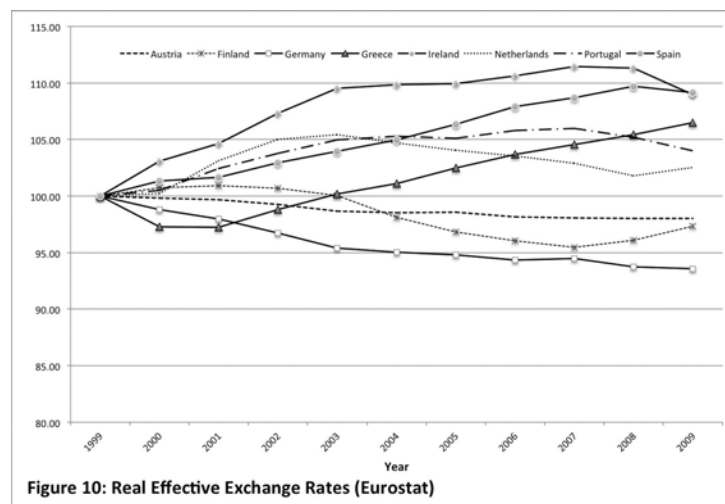
Of course, the distinction between tradable and non-tradable goods is not a sharp one. Should investment in housing count as tradable or non-tradable? Conceivably, it could be counted as tradable if it's a summer home for tourists. But the general point remains: to meet the intertemporal budget constraint, sufficient investment must be made in the tradable sector.⁶

III.7 Monetary Policy and Inflation in a Monetary Union

Recall from earlier that we would expect poorer countries in a monetary union to experience above average inflation as they catch up, the Balassa-

Samuelson effect. The mechanism is stiffer competition leading to increased productivity leading to higher wages and higher inflation. To a limited extent, the data bears out this view. Inflation differentials have been relatively mild in Europe since Monetary Union with standard deviations of around 1%, with poorer countries persistently above the average, but the data on productivity is far from conclusive.

There is an ongoing debate about the determinants of inflation differentials within Europe. The Balassa-Samuelson effect views inflation differentials as benign.⁷ Others argue that the inflation differentials are greater than can be explained by the Balassa-Samuelson effect and propose other causes, some of which are not so benign.⁸ Whatever the causes, Southern countries have experienced above average inflation. Figure 10 (Eurostat) shows the Real Effective Exchange Rates (which accounts for price level changes in both the domestic country and in its major trading partners) for each of our countries



The two principal variables affected by above average inflation are the real exchange rate and the real interest rate.

Above average inflation raises a country's general price level (a real appreciation), thus making exports more expensive and imports cheaper on the international market. Residents of the country will therefore import more and export less, both of which increase a country's Current Account deficit. The full implications of this competitiveness loss, as it's called,

are discussed below.

The second main effect of higher inflation is a lower real interest rate. In this sense above average inflation is pro-cyclical, at least up to a point. Lower real interest rates will stimulate investment and borrowing, possibly leading to housing booms and debt crises. Additionally, increased aggregate demand will, *cet. par.*, lead to higher inflation, exacerbating the competitiveness loss.

III.8 Competitiveness in a Monetary Union

Normally, if a country finds its export sector uncompetitive, it can devalue its currency. Devaluation lowers the country's nominal exchange rate, thus making its exports cheaper and foreign imports more expensive. The net result is a move toward surplus in the trade balance portion of the Current Account.

And there's the problem: in giving up their national currencies to join the Euro, individual countries also gave up control over their nominal exchange rates vis-à-vis other Euro countries; the nominal exchange rate between any two Euro countries is fixed at €1/€1. Nominal devaluation is by definition impossible.

The Euro can still depreciate in nominal terms against other currencies. A Euro depreciation, however, is neither desirable nor likely to succeed. With global demand in the developed world still weak, the world cannot afford a European Current Account surplus. While an appreciation of emerging market currencies (like China) against the Euro could help square this circle, it is not clear if that appreciation is forthcoming.

The one-size-fits all (or one-size-fits none) monetary policy is a serious problem for the Eurozone (Augsburger 2010). The European Central Bank can only target inflation *for the currency union as a whole*. Policy makers knew this going into the Euro, but it was hoped that the benefits of monetary integration would overwhelm any costs arising from heterogeneity among member-states. In fact, some have argued that there's an element of endogeneity in creating a currency union—by creating a union, disparate countries become more similar (Frankel 1999). Business cycles, inflation, productivity, and other key macroeconomic variables would all synchronize. But as we've seen, this has not yet happened.

Not all hope is lost though! At least not in theory. The exchange rate

that really matters is the *real* exchange rate. A real devaluation can still be achieved through lower than average inflation. A country should simply restrict monetary policy, keep inflation low, and watch its exports become competitive again... But alas, member countries gave up control of their monetary policy along with their currency and exchange rate policy. So there is no hope to achieve a real devaluation through monetary policy.

“Aha,” you say. “I’ve read my Keynes and he taught me that deflation needn’t raise employment, especially in a liquidity trap. Your entire premise that lower costs will increase employment is flawed.” To which I respond “Well, I’ve read my Einstein and *he* taught me that everything is relative.” What the Southern Eurozone countries need is deflation *relative* to the North, which will undo some of the price competitiveness lost over the past decade.

The Southern countries have two ways to achieve the relative devaluation. If the Northern core of the Eurozone allows above average inflation, the Southern periphery can regain competitiveness by having average or below average inflation. This could be achieved by looser fiscal policy in the core countries. Unfortunately, it’s not clear that countries like Germany will accept higher inflation. Hyper-inflation leaves a lasting imprint on a country’s collective conscience, and Germans are continually berating the deficit countries for their fiscal profligacy. Furthermore, the European Central Bank is well known for its hawkish tendencies. It recently raised interest rates, despite continued high unemployment. In the release accompanying the decision to raise rates, the ECB noted that the increase was driven by transient food and energy price increases, and that long-term inflation expectations remained well anchored (ECB 2011, 37).

The second way to achieve real devaluation is through normal inflation in the North and *deflation* in the South, called an internal devaluation. Even with a spoonful of sugar, this is some bitter medicine. Irving Fisher (1933) long ago described why deflation is harmful to an economic recovery: the price level falls while debts are almost always contracted in nominal terms. Deflation raises the real value of debt, often leading to bankruptcy. And in a recession following a period of excessive borrowing, the pain will be particularly acute.

But what choice do these countries really have? Assuming they desire growth, they need either higher spending (consumption or investment, private or public) or more exports. We can quickly rule out

higher spending by the public sector. The Greek, Irish, and Portuguese governments have already been shut out of international debt markets; Spain may join them. Households in Spain and Ireland are reeling from a property bubble, and Greece and Portugal had low savings rates going into the crisis. Furthermore, any spending growth would have to be financed by yet more Current Account deficits. Some of the debts may need to be written off, but Europe's banking system is already fragile. There really isn't an easy solution, but an internal devaluation may be the least-worst option.

IV. Policy Recommendations

It is clear that policies will need to change in Europe at both the national and continental level.

At the continental level, Current Account deficit and surplus limits ought to be examined. The Stability and Growth Pact's limits on public borrowing were insufficient. Before the crisis Eurocrats could (and did) claim that the imbalances reflected an inter-temporal optimization problem. Now, statements like

[g]iven our assumptions, all generations, in both countries, consumed their own endowment in the initial equilibrium. In the equilibrium after monetary unification such solution is still part of the opportunity set for all households. Hence, agents can only gain from engaging in inter-temporal trade. (Fagan & Gaspar, 2008, 7)

rightfully elicit a raised eyebrow. To say that because imbalances only increase the available consumption and saving patterns for Eurozone residents, they are therefore *necessarily* not harmful suggests one has spent a little too much time staring at models.

To his credit, Jean-Claude Trichet, the current President of the European Central Bank, has acknowledged the problems posed by Current Account imbalances within the Eurozone. He offers seven indicators that the European Central Bank staff now view as "key." They are:

- a long-term measure of the growth of **unit labour costs**;

- the stock of a country's **net external debt** as a ratio to GDP;
- the national **inflation rate**;
- the **current account deficit** as a ratio to GDP;
- the **private and government debt ratios**;
- and the **stock of private sector credit**. (Trichet, 2011)

All of these are at least indirectly related to the Current Account, and are sensible recommendations. To this I would add a stronger central regulator of Europe's banking system, with an eye toward systemic risk.

At the country level, adjustment will be needed too. Exiting the Euro is essentially out of the question. If a country were to announce plans to leave, the "mother of all financial crises" (Eichengreen 2007) would ensue. Bank runs would occur as households and investors transfer their savings to other Euro banks, knowing that the currency replacing the Euro would immediately depreciate.⁹

To attain growth, deficit countries will need to move to Current Account surplus. Today's surplus countries could help by moving to deficit. Doing this without encroaching on personal liberties is not easy. No one blames Germany for making excellent products at low cost and selling them abroad. Some do blame Germany for not consuming enough¹⁰, but its population is aging and preparing for retirement. The public sectors could aid by continuing expansionary fiscal policy where possible.

The European Central Bank should reverse its decision to tighten monetary policy, or at the very least commit to not raising rates in the near future. If the Northern core does not have higher inflation, the solution looks unworkable.

Deficit countries will need to continue efforts to restore competitiveness. They should follow the model set by Germany, who achieved a real devaluation in the 1990's through wage negotiations with the unions (Black 2010). The two situations, however, could hardly be more different. Germany's institutions were favorable to a devaluation, and they accomplished it in a much more amicable global environment. Countries like Spain, where the local and regional governments control more spending, will have a difficult time. Additionally, Germany's devaluation was matched by appreciations and Current Account deficits in the South. Again, the South cannot bootstrap its way to recover; it will need help.

Perhaps most importantly, European leaders will need to address

Europe's banking sector head-on. The current policy is essentially a backdoor bailout of the banks via bailouts of member-states (O'Rourke 2011). This is not a costless charade because if you consider a debt restructuring possible, which looks likely for Ireland and inevitable for Greece, any delay is harmful for the defaulting country. Europe's banking system will need to raise capital, and Europe's policy makers will need to force them to do it. Once the banks have recapitalized the sovereign debts can be restructured, lightening the burden for the debtor states.

V. Conclusion

The persistent Current Account deficits of Southern European economies reflected inherent weaknesses in the Eurozone. The hoped for convergence of incomes and productivity have not yet emerged. Inflation was persistently higher in the South, eroding the competitiveness of their exporters. The debt accumulated with Current Account deficits will be difficult to service, especially when considering that much of the borrowed funds went to finance consumption. Europe will need to first recognize the problem, and then work together to solve it if the Euro's slow-motion train wreck is to end.

References

- Andersen, Torben.** 2008. Heterogeneous Wage Formation Under a Common Monetary Policy. *Economic Modelling* 25. Elsevier Science Direct.
- Augspurger, Tom.** 2010. *Troubles in the Eurozone*. Contact the author: augspurt@uni.edu
- Balassa, S.** 1964. The purchasing-power parity doctrine. *Journal of Political Economy* 72, 584–596.
- Bennett, Herman, Julio Escolano, Stafia Fabrizio, Eva Gutiérrez, Iryna Ivaschenko, Bogdan Lissovolik, Marialuz Moreno-Badia, Werner Schule, Stephen Tokarick, Yuan Xiao, and Ziga Zarnic.** 2008. Competitiveness in the Southern Eura Area: France, Greece, Italy, Portugal, and Spain. IMF Working Paper WP/08/112: 8-9.
- Bernanke, Ben.** 2005. The Global Savings Glut and the U.S. Current Account Deficit. Lecture, Sandridge Lecture. Virginia Association of Economists, Richmond, Virginia. March 10. Available at <http://www.federalreserve.gov/boarddocs/speeches/2005/200503102/> (accessed April 10, 2011).
- Bernanke, Ben.** 2011. Global Imbalances: Links to Economic and Financial Stability. Lecture. Banque de France Financial Stability Review Launch Event. Paris, France. February 18.

- Black Stanley W.** 2010. Fixing the flaws in the Eurozone. *Vox*. Available online at <http://www.voxeu.org/index.php?q=node/5838> (accessed May 1, 2011).
- Blanchard, Olivier.** 2006. Current Account Deficits in Rich Countries. Lecture, Mudell-Fleming Lecture. 7th Jacques Polak Annual Research Conference (IMF).
- Blanchard, Olivier, and Francesco Giavazzi.** 2002. Current Account Deficits in the Euro Area. The End of the Feldstein Horioka Puzzle? Center for Economic Policy and Research European Summer Symposium in Macroeconomics. Available at <http://www.cepr.org/meets/wkcn/1/1552/papers/giavazzi.pdf> (accessed February 3, 2011).
- Boon, Johnson and Simon Johnson.** 2010. "Irish Miracle – or Mirage?" *The New York Times*. May 20, 2010. Available at <http://economix.blogs.nytimes.com/2010/05/20/irish-miracle-or-mirage/> (accessed March 27, 2011).
- Bruton, John.** 2011. The Economic Future of the European Union. LSE European Institute -APCO Worldwide Perspectives on Europe series. RLINK "<http://www2.lse.ac.uk/publicEvents/pdf/20110307%20John%20Bruton.pdf>" "<http://www2.lse.ac.uk/publicEvents/pdf/20110307%20John%20Bruton.pdf>" (accessed March 21, 2011).
- Eichengreen, Barry.** 2007. The Euro: love it or leave it? *Vox*. Available online at <http://www.voxeu.org/index.php?q=node/729> (accessed May 1, 2011).
- European Central Bank.** 2011. *Monthly Bulletin: April*. Available online at <http://www.ecb.int/pub/pdf/mobu/mb201104en.pdf> (accessed April 15, 2011).
- Fagan, Gabriel, and Vitor Gaspar.** 2008. *Macroeconomic Adjustment to Monetary Union*. Working Paper Series No. European Central Bank. 946. Available at <http://www.ecb.int/pub/pdf/scpwps/ecbwp946.pdf> (accessed March 27, 2011).
- Fisher, Irving.** 1933. *The Debt-Deflation Theory of Great Depressions*. Available online at <http://fraser.stlouisfed.org/docs/meltzer/fisdeb33.pdf> (accessed April 23, 2011).
- Frankel, Jeffery.** 1999. No Single Currency Regime is Right of All Countries or At All Times. NBER Working Paper No. 7338. Available online (restricted access) at <http://www.nber.org/papers/w7338.pdf> (accessed April 23, 2011).
- Giavazzi, Francesco, and Luigi Spaventa.** 2010. Why the Current Account May Matter in a Monetary Union: Lessons from the financial crisis in the Euro Area. Center for Economic Policy and Research Working Papers 8008. C.E.P.R. Discussion Papers.
- Gregoriou, Andros, Alexandro Kontonikas, and Alberto Montagnoli.** 2010. Euro Area Inflation Differentials: Unit Roots and Nonlinear Adjustment. *Journal of Common Market Studies*. no. doi: 10.1111/j.1468-5965.2010.02150.x. 1-16
- Harashima, Taiji.** 2011. A Mechanism of Inflation Differentials and Current Account Imbalances in the Euro Area. University Library of Munich MPRA Paper #28121. Available at <http://mpira.ub.uni-muenchen.de/28121/> (accessed January 30th, 2011).
- Holinski, Nils** 2010. *The Wealth of Nations: Global Imbalances and Adjustments in a Financially Integrated World*. Universitaire Pers Maastricht. Chapter 6. Available online at <http://arno.unimaas.nl/show.cgi?fid=20366> (accessed February 10, 2011).
- International Monetary Fund,** 1996. Balance of Payments Textbook. Washington D.C.: International Monetary Fund. Available online at <http://www.imf.org/external/np/sta/bop/boptex.pdf> (accessed April 23, 2011). IMF World Economic Outlook Database 2010.

- Ishiguro, Rie.** 2011 BOJ's Miyao: G7 FX intervention helped smooth yen moves. *Reuters*. Available at <http://www.reuters.com/article/2011/03/23/japan-economy-boj-miyao-idUSTKZ00689620110323> (accessed March 29, 2011).
- Krugman, Paul.** 2010. Greek End Game. *The Conscious of a Liberal*. <http://krugman.blogs.nytimes.com/2010/05/05/greek-end-game/> (accessed May 1, 2011).
- Krugman, Paul.** 2011. The Madness of Jean-Claude Trichet. *The Conscious of a Liberal*. <http://krugman.blogs.nytimes.com/2011/03/04/the-madness-of-jean-claude-trichet/> (accessed March 29, 2011.)
- Lommatzsch, Kirsten, and Silke Tober.** 2006. Euro-Area Inflation: Does the Balassa-Samuelson Effect Matter? *International Economics and Economic Policy*. Springer.
- López-Salido, J. David, Fernando Restoy, and Javier Vallés.** 2005. Inflation Differentials in EMU: The Spanish Case. *Bank of Spain Working Paper Series*. No. 0514.
- Mundell, Robert A.** 1961. A Theory of Optimum Currency Areas. *The American Economic Review*. Vol. 51, No 4. September, 1961. 657-665. Available at <http://www.sonoma.edu/users/e/eyler/426/mundell1.pdf> (accessed December 27, 2009).
- O'Rourke, Kevin.** 2011. The ECB is leading Europe to disaster. *The Irish Economy*. <http://www.irisheconomy.ie/index.php/2011/05/01/the-ecb-is-leading-europe-to-disaster/> (accessed May 1, 2011). Organization for Economic Cooperation and Development Stat Extracts.
- Prasad, Eswar, Raghuram Rajan, and Arvind Subramanian.** 2007. Foreign Capital and Economic Growth. *Brookings Papers on Economic Activity* 2007, No. 1. Available at http://www.brookings.edu/~media/Files/Programs/ES/BPEA/2007_1_bpea_papers/2007a_bpea_prasad.pdf (accessed March 22, 2011).
- Trichet, Jean-Claude.** 2011. Competitiveness and the smooth functioning of EMU. Lecture at the University of Liège. Feb. 23, 2011. Available online at <http://www.ecb.int/press/key/date/m2011/html/sp110223.en.html> (accessed April 21, 2011).
- Samuelson, P.** (1964). Theoretical notes on trade problems. *Review of Economics and Statistics* 46, 145–154.
- Stravrev, Emil.** 2007. Growth and Inflation Dispersions in EMU: Reasons, the Role of Adjustment Channels, and Policy Implications. *IMF Working Paper*. WP/07/167
- Yarborough, Beth and Robert M. Yarborough.** 2006. *The World Economy: Trade and Finance*. 7th ed. Mason, OH. Thomson Higher Education.
- Wolf, Martin.** 2010. Why Germany cannot be a model for the eurozone. *Financial Times*. March 30. Available online at <http://www.ft.com/cms/s/0/d598e6fc-3c2c-11df-b40c-00144feabdc0.html#axzz1L7G25ata> (Accessed May 1, 2011).
- Zemanek, Holger, Ansgar Belke, and Gunther Schnabl.** 2009. Current Account Imbalances and Structural Adjustment in the Euro Area: How to Rebalance Competitiveness. *German Institute for Economic Research Discussion Papers* 895. Available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1400645 (accessed February 10, 2011).

Endnotes

1. Over the same period we saw large Current Account imbalances develop between the U.S., the U.K., Asia (mostly China), and the oil exporting countries. This “uphill” capital flow from poor to rich countries required some mental gymnastics to fit into the standard framework. It must have been reassuring for economists to see capital flowing “properly” from richer to poorer countries in Europe. See Prasad *et al.* (2007) for musings on this conundrum.
2. For a more rigorous definition, see the IMF’s Balance of Payments Textbook (IMF 1996, 29). Basically, there are other changes affecting the value of investments, such as currency fluctuations, asset price changes, debt write-offs, etc.
3. Additionally, there is some concern about the effect Ireland’s tax policy has on its GDP. Ireland has a very low corporate tax rate, which encourages multinationals to move their profits through Ireland. This raises Ireland’s GDP but not its Gross National Product, producing an uncommonly large gap between the two. Because the corporate tax rate is so low, it doesn’t really generate much revenue. Thus, comparisons like CA/GDP may be misleading. See Boone and Johnson (2010) for more.
4. The IMF describes the computation of Real GDP adjusted for Terms of Trade effects as “deflating exports with the import deflator rather than by their own deflator. Thus, TOT-adjusted GDP indicates the volume of goods and services that can be commanded by the goods and services produced by an economy (also called “command-basis GDP”)—a concept arguably more relevant to the measurement of living standards in open economies than conventional GDP.” (Bennett, et al. 2008).
5. See Fagan and Gaspar (2008) or Giavazzi and Spaventa (2010).
6. Yes, “sufficient investment” is vague, but deliberately so. The purpose here is to dispute the assumption that current account deficits are invested in productive uses, not to recommend the optimal mix of tradable and non-tradable investment.
7. See Lommatzsch and Tober (2006) for a view supporting B-S effects.
8. For example: Fiscal Policies (Harashima 2011), heterogenous wage formation (Anderson 2008), demand expansion (López-Salido et al. 2005), country specific shocks (Stavrev 2007), or even suggesting that inflation differentials are not actually persistent (Gregoriou et al. 2010).
9. Krugman (2010) counters by arguing that if your country is *already* in a financial crisis, quitting the Euro may actually not be so catastrophic, relative to where you already are. We’ll take it for granted that the Southern countries will remain on the Euro.
10. See, for example, Martin Wolf (2010) who argues that if Germany wants Southern countries to save more, as it has stated, Germans themselves will have to save less.