

# RETHINKING THE TWIN DEFICITS

**Collin Constantine**

The twin deficits debate that emerged in the late 1970s has regained traction in recent times since the Eurozone crisis and the debt ceiling debates in the USA. The neoclassical economic contention is that imprudent government spending causes trade deficits: thus, public deficits and debt are the offenders responsible for the Eurozone trade imbalances, the USA's trade deficits and global imbalances generally.

Empirical tests are inconclusive. Some (Abell 1990:81-96; and Volcker 1984:4-9) show that fiscal deficits cause trade deficits, while others (Summers 1988:349-375; and Reisen 1998) indicate the reverse causality. Yet, austerity policies are advanced as if they rest on an uncontested theoretical and empirical foundation. This article challenges the orthodoxy and uses a simple model and a Eurozone case study to show that international differences in competitiveness (based on real unit labor costs and the complexity of exports) lead to *unbalanced* trade. This crucial insight overturns the neoclassical reasoning, since the latter explanation of a twin-deficit relationship rests firmly on the free trade-balanced trade theory. The popular story is that, because trade balances naturally, any imbalances can only be explained by fiscal imprudence. But when imbalances are the natural outcome of trade among *differently abled countries*, fiscal deficits cannot adequately explain these imbalances. Therefore, this article contradicts the neoclassical view. It contends that public deficits and household debt are unfortunate consequences of trade deficits because government outlays tend to increase, stabilizing income and employment, as trade deficits increase.

This debate around these issues is important because of the impact its policy implications could have on the global economy and how it is managed in the future. Overturning the free trade theory and the mainstream economists' explanation of the twin deficits contradicts the claim that austerity is necessary. Using a simple model, this article

demonstrates how austerity measures can reduce *cyclical* trade deficits but at the cost of higher unemployment and indebtedness. Knowing the difference between cyclical and structural trade balances is crucial in understanding why austerity gives a false sense of adjustment. Structural balances are underpinned by competitiveness, while the cyclical trade balances adjust with income. But suppressing income to shrink trade deficits is neither the solution when trade deficits are structural, nor is it humane. Austerity is not the appropriate policy to adjust structural trade deficits.

Some previous studies, such as Nikiforos *et al* (2013:17), support the line of causation proposed here, but there are important differences. For instance, Nikiforos *et al* (2013:2) explain that the source of imbalances in Greece is the Euro, unlike the contention in this article that differences in competitiveness are the key problem. Similarly, Krugman (2013) claims that imbalances in Europe could be eliminated if the Eurozone countries had independent currencies: but this article explains that this adjustment mechanism is dependent on the assumptions of Say's Law and high price and income elasticities of demand for exports and imports respectively. When these latter assumptions are relaxed, the adjustment mechanism fails to operate and trade imbalances persist.

So how can global imbalances be prevented? Keynes suggested an International Clearing Union but this would not prevent imbalances where the source of the imbalances is differences in competitiveness. Rather, industrial policies are necessary to acquire the tacit knowledge and technology needed to improve competitiveness. Nations with highly ubiquitous export portfolios and/or relatively high real unit labor cost need space to elevate their productivity and the technology content of their exports. Trade arrangements that fail to compensate for competitive differences create future crises of debt, trade imbalances and high unemployment.

The remainder of the article is organized as follows. The first section discusses free trade theory and its assumptions, along with the neoclassical explanation of the twin deficits and a brief review of empirical studies. The second section explains how competitiveness determines the trade balance, using a simple model and a Eurozone case study, and ends by reformulating the twin deficits relationship. The third section explains why fiscal austerity is ineffective in solving structural trade deficits. A concluding section summarizes the argument.

## Free Trade and its Assumptions

Consider two countries, A and B, with absolute advantage and disadvantage in all commodities traded, respectively. When trade is undertaken, country A experiences an inflow of foreign currency (or gold in David Ricardo's original analysis) while country B experiences an outflow. Employing the crude quantity theory of money, as Ricardo did, country A and B experience inflation and deflation respectively, until country A loses its absolute advantage in some commodities and country B gains in others. The real exchange rate adjusts to reflect the price changes in both countries until trade balances. These price changes supposedly mirror differences in comparative costs or result in absolute advantage *reversals*. Essentially, price changes are used as the adjustment mechanism that ensures balanced trade.

The above analysis was undertaken with the assumption that capital flows only affect inflation. But when we account for how interest rates are determined these money flows alter relative interest rates and generate an *income* adjustment mechanism. Using Keynes' theory of the rate of interest, these money flows cause a decrease in the rate of interest for country A and an increase for country B. Relatively lower interest rates in country A increase aggregate income through higher investment expenditure, which in turn increases imports or reduces the trade surplus. The reverse is true for country B that has higher interest rates, lower aggregate income and imports, and thus, an improved trade balance. This income adjustment mechanism delineates how the *cyclical trade balance* adjusts over the phases of the business cycle, which is different from *structural trade balance* that cannot adjust through the income or price adjustment mechanisms.

Mundell (1961:657-665) explained that currency unions or countries with fixed exchange rate regimes will lose the price adjustment mechanism that balances trade when wages and prices are rigid. Factor mobility was said to be the essential adjustment mechanism that balances trade. Singh (2008:12), for example, argues that, since Guyana implemented its Economic Recovery Program (ERP) in 1988, labor migration served as the adjustment mechanism that improved its trade balance. Indeed, Guyana's exchange rate was pegged to the US dollar; and migration and remittance flows intensified following the

implementation of the (ERP). Singh (2008:12) explains that remittances have two principal effects:

- they serve as a source of deficit financing; and
- they reduce the demand for imports when much of the remittances are in kind.

On this reasoning the adjustment mechanisms that balance trade ensure that free trade is beneficial for all. The essential benefit is that losers (countries with trade deficits) become winners as trade surplus countries become losers, through any of the adjustment mechanisms that balance trade. An equilibrium is thereby established. But this story is built on the assumptions of Say's Law and no money flow reversals, both of which are relaxed below. Finally, high price elasticity of demand for exports/imports and high income elasticity of demand for exports/imports are *necessary* conditions for the price and income adjustment mechanisms to balance trade. When these do not hold, trade imbalances are entrenched and the argument for free trade is severely weakened.

The price adjustment mechanism implicitly assumes full employment: otherwise, an income adjustment mechanism would balance trade. This is why Say's Law is an important foundation of free trade theory, explaining that any excess supply of goods will automatically readjust with price changes. Popularly known as 'supply creates its own demand', Say's Law ensures that aggregate demand (AD) equals aggregate supply (AS) at a unique equilibrium of full employment (Keynes 1936:26). The latter is a necessary condition that ensures the price adjustment mechanism is feasible. When Say's Law is relaxed, however, this paves the way for an *income* adjustment mechanism to balance trade.

As stated earlier, the efficacy of the price adjustment mechanism also requires relatively high price elasticity of demand for exports/imports: otherwise, price changes would be insufficient to adjust trade imbalances. For instance, trade deficit countries that export primary commodities with relatively low price elasticity of demand can hardly improve their trade balances with lower export prices. This elasticity perspective is the source of the Prebisch-Singer hypothesis that explains why commodity-producing countries experience declining terms of trade (Prebisch 1950:1-12; and Singer 1950:473-485). As such, we expect

*persistent* trade imbalances when commodity-exporting countries undertake free trade with industrialized countries.

Since a clear interest rate differential exists between countries A and B (where the latter has a relatively higher interest rate), money flow *reverses* and move from country A to B in pursuit of higher returns. This reverse in money flow prevents any trade imbalance from adjusting. Instead of a deflation in country B, the reverse money flow entrenches its absolute disadvantages through the price adjustment mechanism. But imbalances can still persist through the income adjustment mechanism. Instead of country A (with its relatively lower interest rate) boosting aggregate income and imports, capital outflow to country B would increase its interest rate and impede the income adjustment mechanism from offsetting trade imbalances. Although currency unions lose the price adjustment mechanism, the income adjustment mechanism is available to balance trade, but this is subject to the critique above.

Relaxing the assumptions of Say's Law and no money flow reversals explain why free trade will not lead to balanced trade, contrary to the mainstream economists' contention. Imbalances between Northern and Southern Europe, China and the USA - and global imbalances generally - should not be regarded as anomalies or the inevitable consequence of fiscal mismanagement. Rather, as Harvey (1996:567-83) says: 'Trade imbalances have not been automatically eliminated, not in the developing world, not even in the developed world, not in the past, not in the present, not under fixed exchange rates, not under flexible exchange rates'.

### **Twin Deficits**

Some simple modelling can help to explain the key variables and relationships. Equation 1 below is a basic national accounting identity where national savings (NS) less investment (I) or net capital outflow is equal to the trade balance or exports (X) less imports (M). A positive net capital outflow ( $NS > I$ ) indicates that the nation is a net lender in world financial markets; and basic accounting necessitates that the trade balance ( $X - M$ ) adjusts to maintain the identity, as equation (2) illustrates. Equation (3) depicts the popular twin deficits relationship when the nation is a net borrower ( $NS < I$ ) in world markets. These identities have no causal implications but nonetheless point to a

correlation between net capital outflow ( $NS - I$ ) and the trade balance ( $X - M$ ).

$$NS - I = X - M \quad (1)$$

$$NS > I = X > M \quad (2)$$

$$NS < I = X < M \quad (3)$$

The mainstream economists' contention is that causation runs from left to right. On the reasoning, fiscal deficits result in a shortfall in domestic savings ( $NS < I$ ) which ignites foreign borrowing and, consequently, causes a trade deficit ( $X < M$ ). However, this reasoning is subject to two qualifications:

- If the reduction in government savings due to fiscal expansion is fully offset by a rise in private savings, then the trade balance remains unchanged (which is known as the Ricardo-Barro Equivalence theorem).
- If a reduction in national saving ( $NS$ ) is fully offset by a fall in private investment, then the trade balance is unaffected (known as the Feldstein-Horioka theorem).

Given these two qualifications, equation (1) can be rewritten as:

$$(S_p - I_p) + (S_g - I_g) = (X - M) \quad (4)$$

where ( $S_p$ ), ( $I_p$ ), ( $S_g$ ) and ( $I_g$ ) are private savings and investment and government savings and investment, respectively. The validity of the Ricardo-Barro Equivalence theorem is questioned because individuals have a limited lifetime and may choose to increase consumption (or reduce savings), though government undertakes deficit spending. As regards the validity of the Feldstein-Horioka theorem, households either face strict capital controls and/or simply lack a preference for foreign capital, both of which are doubtful in a world of highly mobile capital.

The Mundell-Fleming model explains the twin deficits relationship by arguing that fiscal deficits cause trade deficits. The essential argument is that a budget deficit in one country increases its interest rates relative to the rest of the world, which encourages capital inflow that appreciates its exchange rate (in a floating exchange rate regime). The higher exchange rate reduces net exports and deteriorates the country's net trade balance ( $X - M$ ). Alternatively, when the exchange rate regime is fixed, the fiscal

expansion is accommodated by monetary expansion, which offsets the initial increase in interest rates. The result is an increase in aggregate income (through deficit spending) and imports, which erodes the trade balance ( $X - M$ ) through the income adjustment mechanism.

The Mundell-Fleming model uses the trade-balanced theory (or a world where price, income or factor inputs adjust to balance trade) as its underlying theoretical foundation. Logical deduction then dictates that any trade imbalance could only be explained by fiscal imbalances. But trade accompanies money flow across countries that inevitably alter relative interest rates. It is these relatively higher interest rates in trade deficit countries, as compared to trade surplus countries, that ignite capital flows (to trade deficit countries) and consequently cement trade imbalances *independent* of fiscal balances.

Notwithstanding its flawed free trade theoretical basis, the Mundell-Fleming explanation of the twin deficits relationship was given empirical support by Volcker (1984:4-9) and Abell (1990:81-96) for the USA in the late 1980s. Hutchinson and Pigott (1984:5-25), Zietz and Pemberton (1990:23-34), Bacham (1992:232-240), Erceg *et al* (2005:232-240) and Bartolini and Larhiri (2006) also established the same line of causation for OECD countries. Chinn and Prasad (2003:232-240) argue that the Mundell-Fleming explanation holds for both developed and developing countries. However empirical support for the reverse causality was generated by Summers (1988:349-375). Reisen (1998) and Khalid and Teo (1999:389-402) also argued that there is empirical evidence that supports the reverse causality of the twin deficits in developing countries in the 80s and 90s, while Alkswani (2000:26-29) suggested that the reverse causality holds for commodity exporting countries, since the trade balance directly affects fiscal revenues.

A number of other studies have posited bi-directional causality, implying that both fiscal and trade balances affect each other. Darrat (1988:879-886) and Hatemi and Shukur (2002:817-824) showed bi-directional causality for the USA. Islam (1998:121-128) and Normandin (1999:171-193) confirmed the same for Brazil and Canada respectively; while Baharumshah *et al* (2006:331-354) established similar findings for Malaysia and the Philippines, though Anoruo and Ramchander (1998:487-501) indicated uni-directional causality from trade deficits to fiscal deficits. Other studies, such as Miller and Russek (1989:91-115) and Rahman and Mishra (1992:119-127), confirm the Ricardo-Barro

Equivalence theorem, but these studies are difficult to reconcile with recent evidence of both fiscal and private deficits leading to the global financial crisis.

We might reasonably infer that the verdict is out on the direction of causation. However, the recent push for austerity measures in Europe implies otherwise. So does the recommendation in the IMF (1999) Balance of Payments (BOP) Manual that contractionary fiscal policies (among others) could solve balance of payments crises. Even Rodrik (2013) argues that the real heroes of the global economy are countries like Austria, Canada, the Philippines, Lesotho and Uruguay, since they do not over-borrow or sustain a mercantilist economic model. Similarly, Krugman (2013) argues that Germany's trade surplus is responsible for a substantial part of global demand slowdown, because the source of its trade surplus is its excess of savings relative to its investment. Additional blame is also attributed to the fact that Germany does not have an independent currency: otherwise, its exchange rate would simply appreciate to ensure that its trade balance adjusts. But this argument is subject to the same critique of the price adjustment mechanism. Furthermore, Krugman (2013) recommends boosting aggregate demand in Germany to reduce its trade surplus, but this suggestion falls victim to the same criticisms against the income adjustment mechanism. Even if the latter were effective, it would only adjust Germany's cyclical trade balance. If much of Germany's trade surplus is structural, Krugman's advice is palliative at best and completely ineffective in a worst-case scenario.

### **Competitiveness and the Trade Balance**

Contrary to the mainstream economists' contention, my argument is that the fiscal balance does not regulate the trade balance. On the contrary, it is *competitiveness* that determines the balance of trade. But what is competitiveness? The Global Competitiveness Report (GCR) of the World Economic Forum defines it as the institutions, policies and factors that determine the level of productivity of a country. But Lall (2001:1501-1525) argues that this definition is too broad and that the methodology in calculating the indices is flawed, such that these weak theoretical and empirical foundations reduce the value of the indices for any analytical purposes and policymaking.

Competitiveness is defined here, rather more specifically, as the ability of a nation to seize opportunities and subdue costs in an increasingly integrated global environment, through the use of institutions that improve productivity in sophisticated goods/services. From this view, two pillars of competitiveness emerge:

- productivity, particularly labor productivity; and
- technological content or the sophistication of goods/services.

Real unit labor costs could be defined as: wages per hour/labor productivity. Therefore, as productivity rises relative to wages, real unit labor costs fall, and *vice versa*. But the competitive gains from reducing real unit labor costs are limited, especially if the product mix of a country's exports is ubiquitous and built with simple technology. This challenges Krugman (2010), who argues that internal devaluation or reductions in unit labor costs is the only sensible way to eliminate the effects of asymmetric shocks within the Euro. But the sophistication of a country's exports is equally important for competitiveness. Besides, Krugman's suggestion could make matters worse: if aggregate demand in Southern Eurozone countries is *wage led*, internal devaluation would reduce consumption and aggregate income while increasing unemployment and debt to GDP ratios.

The PRODY index developed by Hausmann *et al* (2007:1-25) approximates the revealed technology content of a product by a weighted average of GDP *per capita* of the exporting countries. The PRODY index describes the income level associated with a product and gives more weight to countries with a revealed comparative advantage in that product. Thus, high-income countries can be expected to export goods with relatively higher technology content. At the country level, the Economic Complexity index (Hidalgo and Hausmann 2009:10570-10575) measures diversification and ubiquity, while EXPY (Hausmann *et al* 2007:1-25) scores indicate the income level associated with a particular export basket. These measures are highly correlated with *per capita* income and growth. Countries that are relatively more competitive possess greater technological capabilities and knowledge (formal and tacit), which increase the degree of complexity and the range of goods/services that can be produced. This has been the justification for industrial policies or selective state intervention to accelerate technological accumulation and development.

## A Simple Model

Consider two countries, Alpha and Beta, which export goods X and Y respectively. Country Alpha possesses greater technological capabilities: therefore, good X is a sophisticated commodity with high complexity. The reverse is true for country Beta and good Y. The level of wages ( $W_a$ ) and productivity in country Alpha determine the real unit labor costs ( $W_a^*$ ). We assume that country Beta has a lower wage rate ( $W_b < W_a$ ) but even lower productivity, giving a relatively higher real unit labor cost of ( $W_b^* > W_a^*$ ).

Let  $P_x$  denote the price of good X in terms of Y or the terms of trade of country Alpha. Conversely, the price  $P_y$  of good Y is  $1/P_x$ . These differences in terms of trade are attributed to differences in the technology content of commodities and real unit labor costs. In this simple model, the basis for trade is differences in technology or competitiveness, which cause export prices and export baskets to differ.

When free trade is undertaken between these countries a clear trade imbalance emerges ( $P_x X_a > (1/P_x) Y_b$ ), where  $X_a$  and  $Y_b$  are the quantities of goods X and Y respectively and are non-zero. If we assume that countries Alpha and Beta have their own currencies, the price adjustment mechanism is available to balance trade. But this is impeded by price differentials that are underpinned by differences in competitiveness. Since the price adjustment mechanism assumes Say's Law (contrary to our earlier criticisms) and the factor mobility adjustment is only viable in currency unions, then the *income* adjustment mechanism is the only way to balance trade. However, as the first main section of this article explains, capital moves from surplus countries to trade deficit countries: thus, trade imbalances persist. Consequently, we can posit the following:

**PROPOSITION 1:** *Free trade among countries with differences in competitiveness does not lead to balanced trade.*

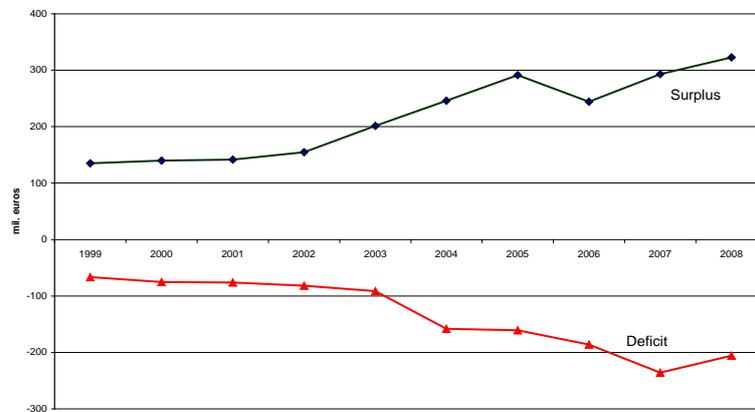
Accordingly, we can expect trade imbalances between North and Southern Europe to persist, since nations within the Eurozone have experienced a divergence in competitiveness. Similarly, extensive trade liberalization of the world economy can be expected to create chronic global imbalances, as is evident today.

If we assume factor price equalization, then wages would tend to be the same in all countries, but real unit labor costs can still vary because of differences in technology and productivity. Technology transfer in trade is a fact, but only formal and codified knowledge is disseminated from the center to the periphery. Inevitably, gaps in *tacit knowledge* not only exist but also tend to persist, since many Free Trade Agreements (FTAs) outlaw industrial policies that government might otherwise implement to acquire that tacit knowledge for local industries.

### A Eurozone Case Study

Figure 1 tells a striking story about the Eurozone crisis and highlights the divergence between the North (surplus nations) and the South (deficit nations). Evidently, trade imbalances have long been a part of the Eurozone story, but they became chronic after 2002.

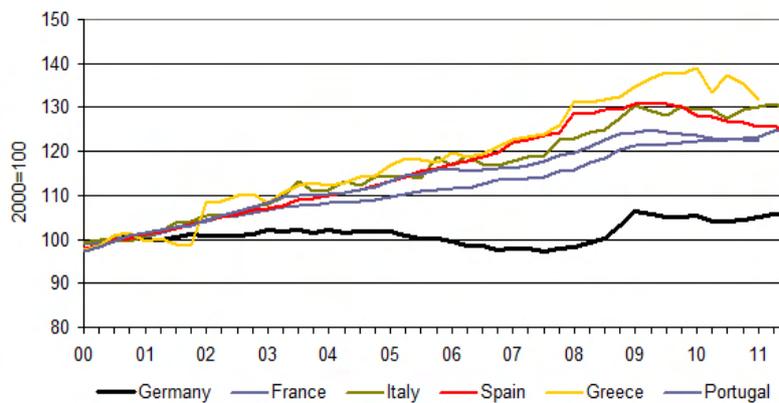
**Figure 1: Intra-Eurozone Trade Balances**



Source: Kosteletou (2011:11).

Note: The trade deficit countries are Austria, France, Italy, Spain, Portugal, Greece, Luxemburg, Cyprus, Malta and Slovenia with other Eurozone countries. The trade surplus countries with other Eurozone countries are Germany, Belgium, Ireland, Holland and Slovakia.

**Figure 2: Unit Labor Costs for Selected Eurozone Countries**



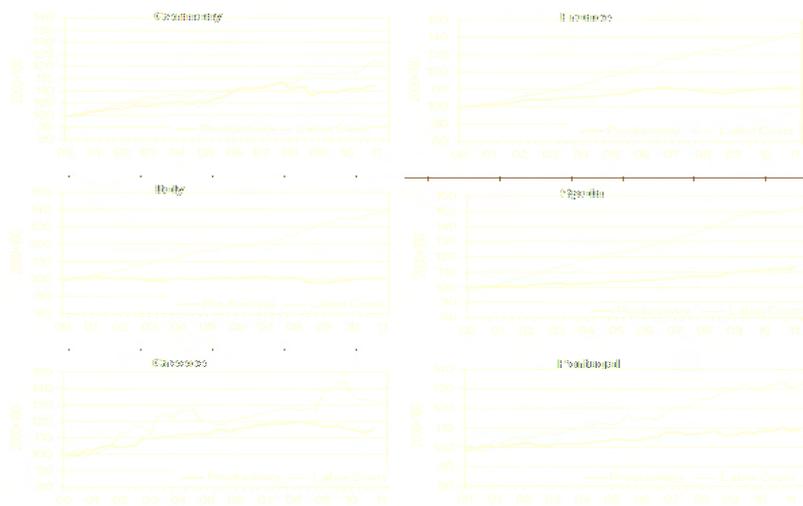
Source: [www.voxeu.org/sites/default/files/image/mickey\\_fig1.gif](http://www.voxeu.org/sites/default/files/image/mickey_fig1.gif) - data source: Eurostat.

Figure 2 showing unit labor costs for Germany, France, Italy, Spain, Greece and Portugal takes us closer to an explanation. After 2002, unit labor costs escalated in Southern Europe, with the largest increase observed in Greece. By contrast, Germany's labor cost increases have been modest when compared to its Southern counterparts. Thus, a clear *divergence in competitiveness* between Germany and Southern Europe is observed, mirroring the worsening trade imbalances from 2002 to 2008 shown in Figure 1.

Figure 3 strengthens the argument that a competitive divergence exists, as productivity improvements were slower in Southern Europe, especially Italy, when compared to Germany. Although the rate of productivity growth increase has evidently been below the rate of increase in labor costs in Germany in recent years, the two have moved more-or-less in tandem over the whole time period shown. By contrast, in France, Spain, Italy and Portugal, the costs of labor have steadily outstripped the slow productivity growth. In spite of Greece's substantial productivity growth until 2008, its competitiveness has been eroded due to escalating labor costs. The divergence between the cost of labor and

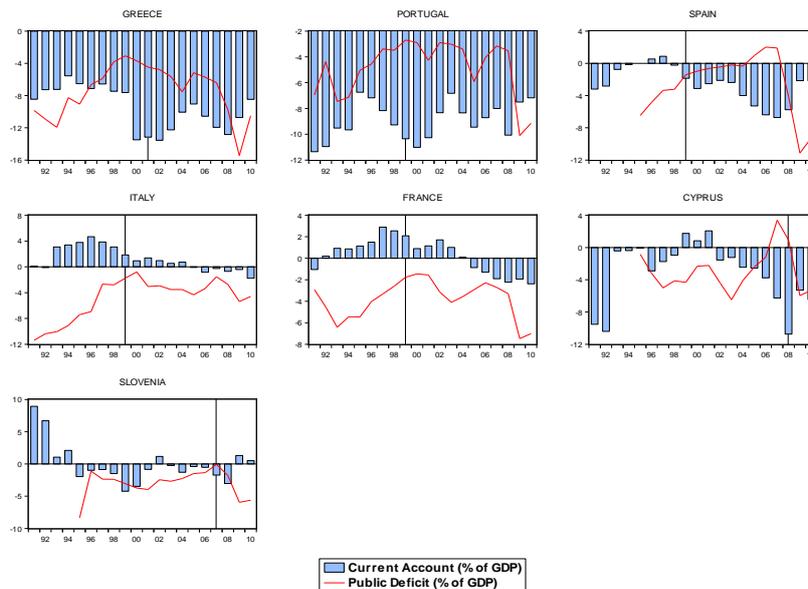
productivity shown in Figure 3 has also mirrored the increasing divide between surplus and deficit countries shown in Figure 1.

**Figure 3: Productivity and Labor Costs for Selected Eurozone Countries**



Source: [www.voxeu.org/sites/default/files/image/mickey\\_fig3.gif](http://www.voxeu.org/sites/default/files/image/mickey_fig3.gif) - data source: Eurostat.

It is often argued that a common currency regime prevents the price adjustment mechanism from working: hence, the Euro has been blamed for entrenched trade imbalances. To assess this hypothesis, Figure 4 highlights the year in which selected Eurozone countries joined the Euro, as indicated by the vertical line in each graph. Interestingly, each of the countries had current account imbalances prior to their adoption of the Euro, in spite of the fact that they all had *independent* currencies. Figure 4 also depicts the correlation between these current account imbalances and the public deficits for the selected economies. The correlation looks weak. Both Italy and France had current account surpluses in many years even though their public accounts were in deficit. Generally, however, the selected countries experience both current account deficits and fiscal deficits over the time period studied here, although there is no clear evidence of any consistent year-by-year association between the two.

**Figure 4: Twin Deficits for selected Eurozone Countries**

Source: Kosteletou (2011:9). Note: the solid vertical line indicates the year that the Euro was adopted.

To what extent has the varying sophistication of exports contributed to the divergence in competitiveness and the worsening of trade imbalances? Table 1 illustrates the Economic Complexity and EXPY indices for Eurozone countries, China, Japan and the USA. It is evident that Germany and the remainder of the surplus countries have higher ECI and EXPY scores, as compared to Greece, Portugal, Malta and Cyprus. Although France, Italy and Austria have recently been trade deficit countries, they have similar ECI and EXPY scores to the trade surplus countries. We may infer that differences in real unit labor costs and technological sophistication could explain the competitiveness gaps between the nations.

Indeed it is no surprise that Greece, Portugal and Spain are burdened with substantial trade imbalances (as shown in Figure 4), since they export few complex goods and are relatively less diversified. These

countries score poorly on the two pillars of competitiveness and, as proposition 1 suggests, they endure chronic trade imbalances. Improving labor productivity within these countries would enhance their international competitiveness, but this cannot be sustained unless they diversify and upgrade the technological content of their exports. Greece's top five exports are: refined petroleum, packaged medicaments, aluminum plating, non-fillet fish and copper pipes. Germany's main exports are: cars, vehicle parts, packaged medicaments, planes, helicopters and spacecraft. 11% of Greece's imports come from Germany, making up the largest part of its import bill.

To digress briefly, Papadimitriou *et al* (2013:1-20) and Shaikh *et al* (2003:1-16) explain that the decline in the USA's current account coincides with a downturn in manufacturing as a share of value added in the economy. This de-industrialization is indicative of the loss in competitiveness in industry. Papadimitriou *et al* (2013:1-20) argue that, unless the stagnation in US manufacturing is reversed, the erosion of its competitiveness will continue. They propose an increase in R&D investment in export sectors to reduce unit costs for producers, arguing that this could return the USA to its competitive position in the high technology sector. It is a line of reasoning that is consistent with the arguments made in the Eurozone case study.

Shaikh *et al* (2003a:1-16) demonstrate that Japan, Germany and China are the three main contributors to the USA's current account deficit. As Table 1 illustrates, both Germany and Japan have higher ECI and EXPY scores than the USA, indicative of their superior competitiveness. Although China scores poorly on these measures as compared to the USA, Shaikh *et al* (2003a) explain that China accounts for the greater part of the USA's current account deficit, revealing *its* advantage in the real unit cost of labor.

Similarly, Montoute (2013:110-126) explains that Caricom<sup>1</sup> countries have endured an increasing trade deficit with China since 2001. China's top ten products are finished manufactures, while Caricom's top ten exports are raw materials – indicating a striking competitive gap. But Caricom's trade misery does not end with China, as the customs union has also experienced trade deficits with the USA and EU since 2001. There were exceptional years like 2006 when Caricom benefited from a

---

1 A customs union of mostly small island Caribbean states.

trade surplus with the USA, but the region is generally at a competitive disadvantage, similar to the Southern Eurozone countries.

**Table 1: Measures of Diversification (ECI) and Incomes for a Particular Export Basket (EXPY) for Selected Countries**

COUNTRY	ECI 2010	EXPY 2010
GERMANY	1.76	20518.92
SWEDEN	1.62	20545.04
CZECH REPUBLIC	1.54	18723.02
FINLAND	1.52	20920.42
UNITED KINGDOM	1.51	19542.34
AUSTRIA	1.49	19992.51
BELGIUM – LUXEMBOURG	1.39	19111.67
FRANCE	1.39	20104.39
SLOVENIA	1.35	18914.48
SLOVAK REPUBLIC	1.30	18032.51
NETHERLANDS	1.28	18447.67
HUNGARY	1.28	18584.14
ITALY	1.23	18701.91
IRELAND	1.23	24734.78
DENMARK	1.17	19762.23
POLAND	1.12	17429.08
SPAIN	1.02	18249.39
MALTA	0.99	17950.39
ESTONIA	0.86	16430.41
CYPRUS	0.83	17371.78
ROMANIA	0.80	15654.90
LATVIA	0.78	15888.44
LITHUANIA	0.73	15608.11
PORTUGAL	0.68	16292.15
BULGARIA	0.65	13699.65
GREECE	0.51	15540.75
CHINA	0.98	17058.99
JAPAN	1.99	21313.27
USA	1.55	20030.19

Source: Reinstaller et al (2012:28).

ECLAC (2012:114) explains that trade between Latin America and the Caribbean (LAC) and the USA, EU, Asia and the Pacific reflects *reprimarization* (the tendency to export primarily agricultural commodities) on the part of LAC. The same publication illustrates that productivity growth has been completely absent in LAC for the period of 1980-2010, while productivity tripled in Asia. LAC has been fortunate since the mid-2000s because the commodity price boom favorably influenced their terms of trade, but it is likely to be in a precarious position when commodity prices stabilize.

Kassim (2013) has investigated the impact of trade liberalization on export and import growth across 28 Sub-Saharan African countries from 1981 to 2010. The research, based on panel data, concludes that, following liberalization, the trade balance deteriorated for the sample countries. Santos-Paulino and Thirlwall (2004:F50-F72) drew the same conclusion for 22 developing countries from 1972 to 1998. An investigation conducted by Santos-Paulino (2007:972-998) for 17 least developed countries from 1970 to 2001 confirmed that this finding is robust. As proposition 1 explains, when competitiveness is asymmetrical, liberalization of the world economy tends to create chronic trade imbalances.

### **Twin Deficits and Causality**

Some further modelling can be held to show the nature of the twin deficits relationship. Equation (5) explains the normal situation where actual income ( $Y'$ ) is less than full employment income ( $Y^*$ ), being made up of government outlays ( $G$ ), consumption ( $C$ ), investment ( $I$ ) and net exports ( $NX$ ). Following proposition 1, we expect the trade deficit ( $NX < 0$ ) and the economy's slack ( $Y' < Y^*$ ) to intensify for country Beta, while the reverse is true for country Alpha. We assume that the output elasticity of unemployment is relatively low for country Alpha so that increases in  $Y'$  due to an increasing trade surplus ( $NX > 0$ ) do not incite wage rises. We also assume that wages are sticky downwards, so that an increasing output gap ( $Y' < Y^*$ ) does not manifest itself in lower wages in country Beta.

$$Y' < Y^* = G + C + I + NX \quad (5)$$

As the output gap increases (due to an increasing trade deficit ( $NX < 0$ )) in country Beta, national income falls along with (C), (NS) and tax revenues (T). This leads to the following position, where ( $Y'' < Y'$ ):

$$Y'' < Y^* = (G > T) + C + (NS < I) - NX \quad (6)$$

Equation (6) illustrates the situation of a public deficit ( $G > T$ ) resulting from a downward (automatic) adjustment of tax revenue (T) and national saving (NS). We can expect the public deficit ( $G > T$ ) to increase as the trade deficit ( $NX < 0$ ) worsens. It is through the *automatic* and *discretionary* stabilization mechanisms that government outlays become endogenous and respond to shocks in the trade balance. The reverse argument could be made for country Alpha that experiences an increase in its trade surplus ( $NX > 0$ ), tax revenue (T) and national saving (NS). Through automatic stabilizers, Alpha's fiscal position becomes a surplus ( $G < T$ ) and the country becomes a net lender ( $NS > I$ ) in world markets. This leads us to the following proposition:

**PROPOSITION 2:** *Causality runs from trade deficits to fiscal deficits.*

This implies that fiscal balances endogenously adjust to trade balances, which undermines the fiscal sovereignty of nation states. This should caution against the embrace of many Free Trade Agreements (FTAs) and further integration of trading blocs.

As highlighted earlier, there is empirical support for Proposition 2, but this hardly gets us anywhere as the reverse causality also has some empirical support. To settle the issue, one has to investigate the theoretical foundations of the various lines of causation. Conventional trade theory argues that the value of each nation's imports and exports tends to balance irrespective of their initial competitiveness, but this reasoning is built on implausible assumptions, as argued earlier. *Since competitiveness is not evenly distributed, trade imbalance is the general case and could not be caused by fiscal deficits.*

Rodrik (1998:997-1032) explains that governments play a risk-reducing role for economies exposed to significant external risks, supporting the argument that *causation* runs from openness to government spending. To reduce endogeneity problems and extract the exogenous component of trade shares, Rodrik employs three different approaches to establish causality. He uses a measure called natural openness (instead of the

standard measure of trade to GDP ratio), which captures the distance among major trading partners. Secondly, he employs a measure developed by Frankel and Romer (1996) that seeks to capture the geographical determinants of trade shares, using only *bilateral* trade data. Finally, an instrumental variables approach, based on population and distance, is used. Cross country regressions on these three bases confirm the earlier findings of causation running from openness to the size of governments when the standard measure of openness (trade to GDP ratio) is employed. This supports Proposition 2 and the determination of trade imbalances independent of fiscal imbalances.

Kearney and Fallick (1987) contend that fiscal restraint will not improve the trade balance unless accompanied by industrial initiatives aimed at improving the country's structural weaknesses. The authors underscore the point that private savings and investment are not stable: ergo, fiscal consolidation is not the only adjustment mechanism to balance trade, unlike the neoclassical claim. The authors highlight the importance of the components of government spending (current and capital outlay) and contend that these have asymmetrical influence on the trade balance, an argument that is ignored in the neoclassical reasoning. Similar to Cuddington and Vinal (1986), the authors claim that the influence fiscal deficits have on the trade balance is dependent on how the deficit is financed, whether it be tax or loan financed. Kearney (1988) advances similar arguments contrary to the neo-classical reasoning.

An extension of the causality debate is the argument that excessive savers and spenders are responsible for global imbalances. But let us reconsider equation (6), where trade deficits ( $NX < 0$ ) reduce national income and national savings (NS). The fall of national savings (NS) in trade deficit countries is the consequence of an increase in the output gap, as opposed to irresponsible governments or households. The reverse is true in trade surplus countries ( $NX > 0$ ), where national income and national savings (NS) are rising steadily. Hence, the presence of 'excessive savers and spenders' is an expected *consequence* of global imbalances (*ceteris paribus*). In trade deficit countries, households attempt to maintain their current standards of living by incurring debt, although employment and income are falling.

## Trade Deficits and Fiscal Austerity

The popular argument that twin deficits are caused by fiscal mismanagement leads to one conventional policy conclusion – impose fiscal austerity. Equation (6) illustrates the budget deficit ( $G < T$ ) that austerity measures are supposed to eradicate, as in the cases of Greece and the IMF's structural adjustment programs. Reductions in ( $G$ ) that are intended to balance the budget simultaneously reduce aggregate income, ( $C$ ) and ( $NS$ ). That fall in national income would normally reduce imports and thus improve the *cyclical trade deficit*, but at a cost of higher unemployment. Surely this is not the humane way to address global imbalances.

Proponents of austerity contend that the austerity measures are expansionary since the cyclical trade balance improves. But any such expansionary effect must be weighed against the contractionary impulses of lower ( $C$ ), ( $G$ ) and ( $I$ ). Indeed, trade deficits have declined in the aftermath of austerity policies in Southern Europe, but this does not reflect improved competitiveness: it is the cyclical trade deficits that have improved at the cost of unemployment. This leads us to proposition 3:

**PROPOSITION 3:** *Fiscal austerity cannot solve structural trade deficits.*

This claim rests on the foundation of Propositions 1 and 2. As such, unless fiscal austerity improves competitiveness, structural trade deficits will persist. Moreover, it is unlikely that budget cuts in education, health care, infrastructure and other social spending will enhance competitiveness and reduce trade imbalances, especially in times of high unemployment.

The idea of austerity is founded on a flawed theory that leaves only one explanation for trade imbalances – irresponsible governments. Proponents of austerity argue that the reduction of debt should be the first order of business. Of course, trade deficit countries are net borrowers, so high indebtedness is expected, but the use of austerity measures tends to increase the debt to GDP ratio and make the problem worse. The problem of debt will continue, unless the structural imbalances are addressed by reducing the gaps in competitiveness among nations. Meanwhile,

austerity measures are deeply socially unpopular, as shown by protests on the streets of Europe.

## Conclusion

Overthrowing orthodox economic trade theory strikes the hardest blow against the popular explanation of the twin deficits. *This article proposes that free trade among nations with differences in competitiveness does not lead to balanced trade, and that causality runs from trade deficits to fiscal deficits.* When we understand that trade imbalances are not anomalies but the general outcome of trade among countries that are differently abled, one cannot convincingly argue that fiscal imprudence causes these imbalances. This article has sought to show the flaws in the mainstream reasoning and explains why *fiscal austerity cannot solve structural trade deficits.* The reasoning that excessive spending and savings are the root causes of global imbalances has also been challenged and overturned through the use of a simple model that delineates why these are inevitable outcomes from unbalanced trade.

In the European case, there is a clear divergence in competitiveness between North and Southern countries that drives the imbalances. In the German case, its real unit labor costs are lower than the Southern Eurozone countries and its exports are highly complex and sophisticated. Southern European countries, particularly Greece, need to diversify and upgrade the technology content of their exports. For countries like France that export sophisticated goods like others in the North, reductions in real unit labor costs can contribute to regaining competitiveness, but this cannot be done unless industrial policies are accommodated.

These findings have far reaching implications for academics and policy makers alike, especially at a time when countries are affected by chronic trade imbalances, debt and high unemployment. The proposition that differences in competitiveness matter for trade forces us to rethink the global trading architecture and helps us understand the role that trade liberalization (or integration) plays in today's global and regional imbalances. The Eurozone crisis should be a lesson for trading blocs everywhere: its continuing problems represent the epitome of the flawed theory that trade always balances. A reconstruction of the global economy is needed to prevent, instead of create, trade imbalances, thus averting high indebtedness and unemployment. How we organize the

global economy to close the gaps in competitiveness is the principal task of our generation and a fertile area for future research.

*Collin Constantine is a graduate student at the University of London: SOAS.*

*constantinecollin@gmail.com*

*The author wishes to thank three anonymous referees for helpful comments and Frank Stilwell for support that greatly contributed to this article.*

## References

- Abell, J. D. (1990) Twin deficits during the 1980s: An empirical investigation, *Journal of Macroeconomics*, 12(1), 81-96.
- Alkswani, M. A. (2000) The twin deficits phenomenon in petroleum economy: Evidence from Saudi Arabia, Paper presented in Seventh Annual Conference, Economic Research Forum (ERF), 26-29 (October).
- Anoruo, A. and Ramchander, S. (1998) Current account and fiscal deficits: Evidence from five developing economies of Asia, *Journal of Asian Economics*, 9(3), 487-501.
- Bacham, D. D. (1992) Why is the US current account deficit so large? Evidence from vector autoregressions, *Southern Economic Journal*, 59(2), 232-240.
- Baharumshah, A. Z., Lau, E., Khalid, A. M. (2006) Testing twin deficits hypothesis using VARs and variance decomposition, *Journal of the Asia Pacific Economy*, 11(3), 331-354.
- Bartolini, L. and Larhiri, A. (2006) Twin deficits: Twenty years later, Federal Reserve Bank of New York, *Current Issues in Economics and Finance*, 12(7).
- Chinn, M.D. and Prasad, E. S. (2003) Medium – term determinants of current accounts in industrial and developing countries: An empirical exploration, *Journal of International Economics*, 59(1), 47-76.
- Darrat, A. F. (1988) Have large budget deficits caused rising trade deficits? *Southern Economic Journal*, 54(4), 879-886.
- ECLAC (2012) Structural change for equality: An integrated approach to development, *Economic commission for Latin America and the Caribbean*, United Nations, thirty – fourth session of ELAC, San Salvador.
- Erceg, C. J., Guerrieri, L., Gust, C. (2005) Expansionary fiscal shocks and the US trade deficit, *International Finance*, 8(3), 363-397.
- Frankel, A. J. and Romer, D. (1996) Trade and growth: An empirical investigation, *National Bureau of Economic Research Working Paper*, No. 5476.
- Harvey, J. T (1996) Orthodox approaches to exchange rate determination: a survey, *Journal of Post-Keynesian Economics*, 18(4), 567-83.

- Hatemi, A. and Shukur, G. (2002) Multivariate – based causality tests of twin deficits in the US, *Journal of Applied Statistics*, 29(6), 817-824.
- Hausman, R., Hwang, J., Rodrik, D. (2007) What you export matters, *Journal of Economic Growth*, 12(1), 1-25.
- Hidalgo, C. A. and Hausmann, R. (2009) The building blocks of economic complexity, *Proceedings of the National Academy of Sciences of the United States*, 106(26), 10570-10575.
- Hutchinson. M. M. and Pigott, C. (1984) Budget deficits, exchange rate and current account: Theory and U.S evidence, Federal Reserve of Bank of San Francisco, *Economic Review*, 4, 5-25.
- IMF (1999) Balance of payments manual, Statistics department, *International Monetary Fund*.
- Islam, M. F. (1998) Brazil's twin deficits: An empirical examination, *Atlantic Economic Journal*, 26(2), 121-128.
- Kassim, L. (2013) The impact of trade liberalization on export growth and import growth in Sub-Saharan Africa, University of Kent, *School of Economics Discussion Papers*, no 13/10 (MAY).
- Kearney, C., Fallick, L., (1987). Macroeconomic policy and the balance of payments in Australia. *Economic Analysis and Policy* 17(2), 131-148.
- Kearney, C. (1987) Fiscal Policy and the Balance of Payments: A Review, *Journal of Australian Political Economy* 22, 27-38.
- Keynes, M. J. (1936) *The general theory of employment, interest and money*, London: Macmillan (reprinted 2007).
- Khalid, A. M. and Teo, W. G. (1999) Causality tests of budget and current account deficits: Cross – country comparisons, *Empirical Economics*, 24, 389-402.
- Kosteletou, E. N. (2011) Euro and the twin deficit: The Greek Case in: *Greece: Economics, Political and Social Issues*, edited by Panagiotis Liargovas, Nova Science Publishers.
- Krugman, P (2010) Ignoring the elephant in the Euro, *The New York Times: The Conscience of a Liberal*, (May).
- Krugman, P (2013) German Surpluses: This Time is Different, *The New York Times: The Conscience of a Liberal*, (November).
- Lall, S. (2001) Competitiveness indices and developing countries: An economic evaluation of the Global Competitiveness Report, *World Development*, Elsevier, 29(9), 1501-1525.
- Miller, S. M. and Russek, F. S. (1989) Are the twin deficits really related? *Contemporary Policy Issues*, 7, 91-115.
- Montoute, A. (2013) Caribbean-China economic relations: What are the implications? *Caribbean Journal of International Relations and Diplomacy*, 1(1), 110-126.
- Mundell, R. (1961) A theory of optimum currency areas, *American Economic Review*, 51(41), 657-665.
- Nikiforos, M., Carvalho, L., Schoder, C. (2013) Foreign and public deficits in Greece: In search of causality, *Levy Economics Institute of Bard College*, Working Paper No. 771.

- Normandin, M., (1999) Budget deficit persistence and the twin deficits hypothesis, *Journal of International Economics*, 49(1), 171-193.
- Papadimitriou, B. D., Hannsgen, G., Nikiforos, M., Zezza, G. (2013) Rescuing the recovery: Prospects and policies for the United States, Strategic Analysis. Annandale – on – Hudson: N.Y.: *Levy Economics Institute of Bard College*, (October).
- Prebisch, R. (1950) The economic development of Latin American and its principal problems, *Economic Bulletin for Latin America*, 7, 1-12.
- Rahman, M. and Mishra. B. (1992) Cointegration of US budget and current account deficits: twin or strangers? *Journal of Economics and Finance*, 16, 119-127.
- Reinstaller, A., Holzl, W., Kutsam, J., Schmid, C. (2012) The development of productive structures of EU member states and their international competitiveness, *Austrian Institute of Economic Research, European Commission, DG Enterprise and Industry*, contract No SI2-614099.
- Reisen, H. (1998) Sustainable and excessive current account deficits, *OECD Development Centre*, Technical Paper, #132.
- Rodrik, D. (1998) Why do more open economies have bigger governments? *Journal of Political Economy*, 106(5), 997-1032.
- Rodrik, D. (2013) The real heroes of the global economy, Project Syndicate, (November).
- Santos-Paulino, A., U., and Thirlwall, A., P. (2004) The impact of trade liberalization on export growth, import growth and the balance of payments of developing countries, *Economic Journal*, 114(493), F50-F72.
- Santos-Paulino, A., U. (2007) Aid and sustainability under liberalization in least developing countries, *The World Economy*, 30(6), 972-998.
- Shaikh, A., Papadimitriou, D., Dos Santos, C., Zezza, G. (2003) Deficits, debt and growth: A reprieve but not a pardon, Strategic Analysis, *The Levy Economics Institute of Bard College*, (October).
- Shaikh, A., Zezza, G., Dos Santos, C. (2003a) Is international growth the way out of the US current account deficits? A note of caution, Policy Note, *The Levy Economics Institute of Bard College*, (June).
- Singer, H. (1950) The distribution of gains between investing and borrowing countries, *American Economic Review, Papers and Proceedings*, 40, 473-485.
- Singh, B. T. (2008) Balance of payments adjustment in Guyana: Is there a role for informal institutions? in *Small Economies and Global Economics*, edited by J. Ram Pillarisetti, Roger Lawrey, Teo Siew Yean, Shamim A. Siddiqui, and Azman Ahmad (University of Brunei), Nova Science Publishers.
- Summers, L. H. (1988) Tax policy and international competitiveness, in: Frenkel, J. (ed.), *International aspects of fiscal policies*, Chicago UP, Chicago, 349-375.
- Volcker, P. A. (1984) Facing up to the twin deficits, *Challenge*, 4-9, (March/April).
- Zietz, J. and Pemberton, D. K. (1990) The US budget and trade deficits: A simultaneous equation model, *Southern Economic Journal*, 57(1), 23-34.