"The Question of German Imbalances within the Eurozone: Competitiveness versus Savings Explanations?"

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Abstract

Two major competing explanations for trade imbalances exist in the literature: competitiveness and savings. Although often framed as competing explanations, this manuscript uses trade and national economic data to demonstrate that both partially explain trade imbalances within the Eurozone prior to the crisis and the trade re-balancing post-crisis. The complementary nature of the two explanations is mainly due to political and institutional factors that separate the European North from the South. These differences, described in the varieties of capitalism literature, help to explain variation in domestic savings rates and cross-country competitiveness as well as the ultimate underlying causes of trade imbalances across the globe.

Keywords: Trade imbalances, competitiveness, domestic savings, trade surpluses, trade deficits, underconsumption, Germany, China, ordo-liberalism, real effective exchange rates

1. The Question of Structural Imbalances

The Eurozone crisis (2009 to the present) is usually thought of as three separate crises coming together in a historical conjuncture: a banking crisis, a fiscal crisis of the state, and a balance of trade crisis (Pisani-Ferry, Sapir, and Marzinotto, 2010). We concern ourselves with the balance of trade crisis. We start with an empirical observation, namely that trade dispersion in bilateral trade relationships increased within the Eurozone after the introduction of the euro in 1999. Using a data set going back to 1948, Berger and Nitsch (2010, pp. 1-2) demonstrate that bilateral trade

dispersion increases with the introduction of the euro and continues until the outbreak of the crisis. We recognize that there is no reason why any particular bilateral trade relationship should be balanced but if exports and imports are unbalanced over the long term among groups of countries, it may indicate underlying distortions. Imbalances within the Eurozone center on a creditor coalition, led by Germany, and a debtor coalition, which includes Greece, Italy, Portugal, Spain, and sometimes Ireland (called collectively the periphery). In short, Germany has accumulated large trade surpluses over the years, accompanied by capital flows from Germany to the periphery. These capital flows financed a consumption boom in Portugal and Greece and a construction boom in Spain and Ireland. However, these flows were abruptly cut short after the announcement by the Greek prime minister of the true level of Greek debt. Markets froze, capital inflows stopped (Merler and Pisani-Ferry, 2012), and Greece as well as other countries on Europe's periphery ceased to have access to capital markets.

Trade imbalances in the Eurozone did not suddenly appear in 2010. They had been building for years, but until they were recognized by market actors, and until the financing dried up, they were not seen as a problem. Marzinotto (2016, pp. 100-102) refers to this as "The Eurozone's silent balance of payments crisis", a crisis that transpired in slow motion from 1999 to 2008 with the deterioration in real exchange rates among the peripheral countries. It is important to keep in mind that the trade imbalances by themselves were not recognized as an economic or political problem until late fall 2008 with the Greek announcement. It was then that the vulnerability of the Eurozone was recognized and the incomplete political structure of the monetary union exposed. This fact alone demonstrates the political and psychological dimensions of the imbalances.

In this section we attempt to identify what trade imbalances are in analytical terms and to provide some theoretical basis for why they occur. In subsequent sections, we suggest in greater detail why the crisis occurred in the Eurozone and what, if anything, can be done to alleviate it. We conclude with some comparative remarks about China.

1.1 What are structural trade imbalances?

Structural trade imbalances refer to persistent surpluses and deficits in the trade account. The primary surplus countries are China and Germany, though Russia, South Korea, and the Netherlands also run persistent surpluses. The United States, the United Kingdom, Canada, and Australia often run deficits. It is a truism that every surplus has its counterpart deficit and that not all countries can be surplus countries at the same time. This is simply the way the accounting conventions of trade work. A surplus for one country is recorded as a deficit for another country. The trade deficits must be financed by movements in the capital account. As obvious as this sounds, it runs counter to the

advice to the deficit countries that they should become more like the surplus countries (i.e. produce better products, save more, consume less). Such advice is internally contradictory since every surplus requires a deficit somewhere in the system.

1.2 What are the sources of structural trade imbalances?

The answer to this question is not so straightforward. Analysts agree that a host of factors play a role but what is exogenous and what is endogenous is a subject of controversy. Factors thought to play a role are relative productivity, relative rates of savings, exchange rates and currency manipulation, cross-country wages, and domestic prices (reflected in real exchange rates). Notice that almost all measures are expressed in relative terms, since it is cross-country differences that are important. It doesn't matter much if Greece is inflating at 10% if Germany is inflating by the same amount? These two rates of change will net out as far as price changes are concerned. But if Greece inflates at 4% and Germany at 1%, this can become a problem, as it did.

One way to simplify the causes of imbalances is to isolate the imbalances between production and consumption. If these are perfectly in balance, so that what is produced is consumed, and the monetary residue of what is consumed is cycled back into investment and production, there is no imbalance. But if there is an investment shortfall, or a secular decline of consumption, future production will suffer. A decline in consumption creates problems for the economy. What should be done with the portion of production that is not consumed? In principle resolution of the imbalance can take place within countries (Pettis, 2013, pp. 3-7). However, in an interdependent global economy, imbalances may also be forced to the international level. This is the essence of Hobson's theory of underconsumption (Hobson 1902).[1] Viewed in this context, a country's "domestic" rate of savings may create problems for another country. We return to the domestic savings issue, and the implications for trade imbalances, later in the paper.

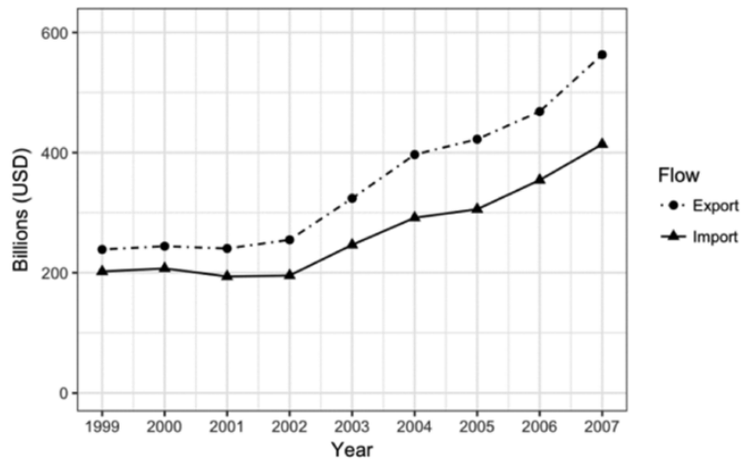
2. Description of Structural Imbalances.

Even if symptomatic of deeper problems, trade imbalances between core and periphery countries in the Eurozone are an important part of the euro crisis in Europe. Since the euro was adopted by

[1] Movements in consumption often are treated as exogenous, but why would consumption decline on its own? It could be that the working class, or more generally those lower in the economic hierarchy, receive a smaller share of national income, as workers in the US have experienced over the last 40 years or so. Or it may be because the rich, upon receiving a tax cut, choose to save more or to shelter their savings in various havens. Or it could be because of some cultural shift, such as occurred in Germany after reunification, when fears of inflation stoked a "savings spree".

eleven countries on January 1st, 1999 (Greece adopted the euro in 2001), Germany's trade surplus has grown significantly. An increasing trade imbalance between Germany and the other eleven countries to first join the Eurozone (EZ-11) is displayed in Figure 1. We focus on the first countries to join the Eurozone to avoid the complication of other countries joining at different points in time. Since the first twelve countries to join the Eurozone make up the majority of the economic production and trade within the Eurozone, this decision does not skew our results. Figure 1 demonstrates that between 1999 and 2007 German exports to the EZ-11 more than tripled while imports into Germany from the EZ-11 only doubled. In this period, Germany's trade surplus increased from 36.7 billion USD to 149.1 Billion USD (over a 300 percent increase; authors' calculations).

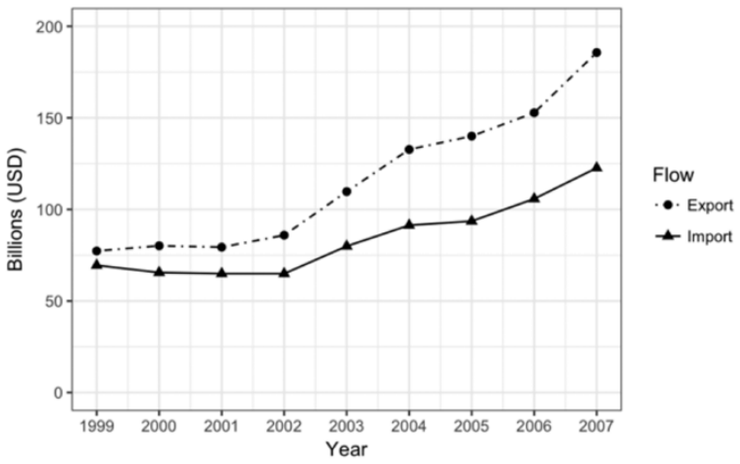
Figure 1. Trade Flows Between Germany and the EZ-11 (1999-2008)



Source: UN Comtrade Data

Among EZ-11 countries, the largest percentage change in German trade surplus occurred among peripheral countries termed the GIIPS (Greece, Italy, Ireland, Portugal, and Spain) countries where trade surplus was driven by increased exports from Germany to the GIIPS. Figure 2 displays that Germany's trade surplus with GIIPS countries increased between 1999 and 2007 from 7.8 billion USD to 63.0 Billion USD (over a 700 percent increase ; authors' calculations). Clearly as a relative change, the German trade surplus increased much more between GIIPS countries than the rest of the EZ-11 countries.

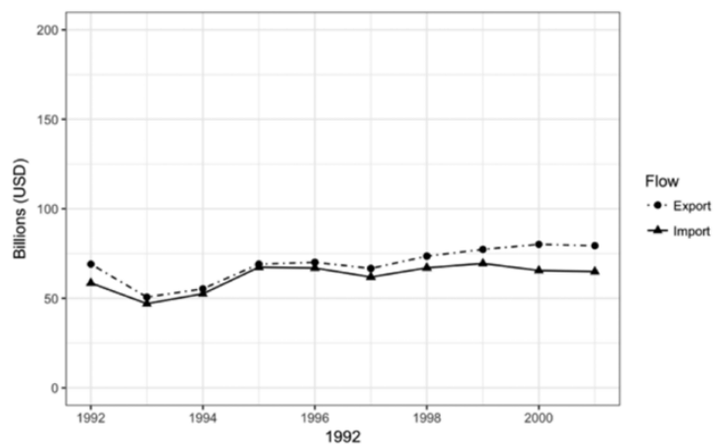
Figure 2. Trade Flows Between Germany and the GIIPS (1999-2007)



Source: UN Comtrade Data

The Eurozone was a catalyst for the German trade surplus and trade data in Figure 3 confirms this by displaying trade data before the euro. This figure demonstrates that German trade surpluses with the GIIPS did not begin growing after the Eurozone came into existence. The German trade balance between the GIIPS was stationary until the Eurozone was created in 1999.

Figure 3. Trade Flows Between Germany and the GIIPS (1992-2001)



Source: UN Comtrade Data

The previous three figures demonstrate that Germany's trade surplus with the GIIPS countries began trending upwards from the point of Eurozone creation to the beginning of the euro crisis. The timing of the euro creation certainly correlates with increasing German trade surpluses with the Eurozone and GIIPS countries. Why? Many caricatures have been peddled throughout the media, but this manuscript focusses on two major theories, one based on changes in competitiveness and the other focused on relative savings rates.

3. Cultural Explanations, Are They Caricatures?

Political economy approaches tend to rely on changing relative incentives and political power and tend to be skeptical of cultural explanations. Cultural explanations can easily degenerate into crude stereotypes about thrifty, hardworking Germans and "Schwabian housewives" versus spendthrift Greeks and Italians. Overall, we tend to share this skepticism though in this particular case, we are not inclined to toss out cultural explanations so quickly. Thus, we ask, following the title of a recent article, "Are the Tabloids Right?" (Frankenberger, 2011) Some of the tabloids, particularly Bild, reflect the widespread skepticism in mass public opinion about the European Union. As Frankenberger argues, there is little sympathy for indebted nations in German public opinion (2011, p. 61). Many Germans feel they have endured the rigors of domestic austerity themselves as a result of reunification and painful domestic labor reforms (Newman, 2015). Many feel they (Germans) should simply be paid back by countries in the periphery which went on a spending spree with German loans. The argument that the GIIPS lost competitiveness and therefore suffered trade deficits is countered with assertions that these countries should improve their competitiveness as Germany did. Along the same lines, there is little sense of anything amiss with German wage cuts and high rates of saving even though both have implications for international trade, particularly in a system with fixed currencies.

Most scholars would be quick to admit that any system of exchange, particularly one reaching so far into the fabric of domestic politics, must rest on a set of ideas providing a shared vision or social purpose. We can ask the same question about the cultural framework for the EMU. Monetary unification brought a single currency to a subset of EU countries as an accompaniment to the single market. For European federalists, the single market ushered in by the start of 1993, was not complete without a single currency (European Commission, 1990). However, EMU cannot be understood purely in terms of self-interest. Indeed, from a self-interest standpoint, many arguments could be made against monetary unification, and indeed they were (Jonung and

Drea, 2010). So how do we understand EMU? What is the ideological framework within which it becomes comprehensible? Monetary unification required political institutions (quite a bit more than provided in the beginning) as well as a set of collective understandings and governing norms and principles.

The choice between ideas and self-interest as applied to setting up the EMU is a false one since ideas frame self-interest and provide a mental map within which to understand and legitimate interests. An approach based purely on self-interest does not tell us whether, in the face of the Euro crisis, German self-interest is better served by austerity or fiscal transfers to the peripheral countries. One can make a sensible case that Germany is more likely to be "paid back" the sooner the peripheral countries recover. Contrast this scenario with austerity which led to contraction of the damaged economies, shrinkage of the Greek economy by over 20%, and considerable lost output in Spain, Portugal, Italy, and Greece. Indeed, the 19 economies of the Eurozone in the second quarter of 2016 attained the level of output which they had reached in 2008, just before the crisis. A sensible case can also be made for austerity, in that if overspending is judged to be the problem, it makes sense (in certain theoretical frameworks) to cut back on spending. It would not make sense within a Keynesian framework.

The economic-cultural lens through which the Euro crisis is interpreted is the ordo-liberal paradigm, a political economy (and cultural) framework that has its roots in the economic thought of Walter Eucken during the Nazi period (Jacoby, 2017; Dullien and Guerot, 2012; Brunnermeier et al., 2016). It seems so at odds with prevailing economic frameworks in Europe and the United States (Keynesianism and monetarism) that it is hard to believe it is accepted by economists in Germany and elsewhere. One clue to understanding ordo-liberalism's sway is to realize that most of the members of the Germany Finance Ministry are not economists but lawyers.

Part of the success of ordo-liberalism is that it took root in an environment that was favorable to its adoption. Two aspects of this environment must be noted. First, Germans have an historical aversion to inflation that goes back to the Nazi period. This aversion favors ideologies that stress individual responsibility for spending and revenue decisions and discourage externalization of debt. Second, there was the painful period of reunification during the nineties and the effect of this costly adjustment on German public opinion (Newman, 2015). Many Germans feel that they endured a period of painful adjustment, higher taxes, inflation, and labor market reforms and other countries should do the same if they want to become competitive the hard way. These two factors

did not by themselves determine the ascendancy of ordo-liberalism but they did facilitate it. Thus, an economic ideology that may seem patently out of line with economic thought in most of the other advanced economies (both continental and Anglo-Saxon variants) is dominant in German policy circles today, if not in academia.

4. Explanations of Trade Imbalances

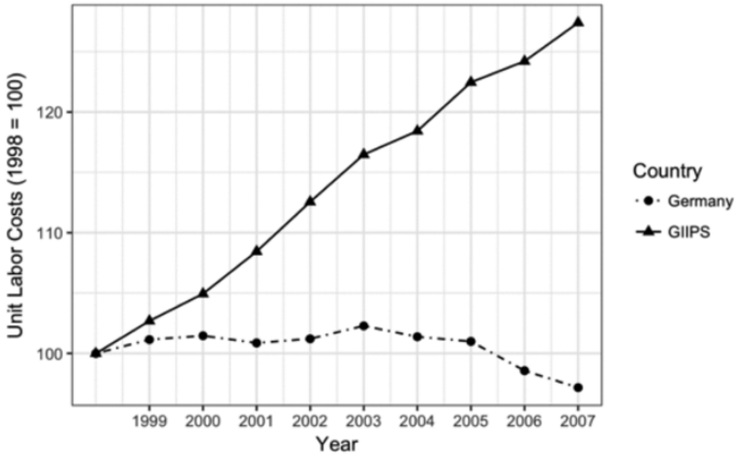
In this section we briefly discuss the two major academic explanations for trade imbalances between Germany and the GIIPS (competitiveness, savings) and introduce data relevant to both theories. We focus on the relationship between Germany and the GIIPS, rather than the whole Eurozone, because growing trade deficits in the GIIPS with core Eurozone states such as Germany played a significant role in the build-up to the euro crisis. Accordingly, this section reports data for Germany and a GIIPS average (the mean of all five countries Greece, Italy, Ireland, Portugal, and Spain).

4.1 Competitiveness

The competiveness explanation suggests that higher prices in the periphery were driven by rising wages resulting in higher inflation and declining competitiveness between the GIIPS and Germany. Changes in competitiveness between Germany and the GIIPS resulted in current account divergence (Pisani-Ferry, Sapir and Marzinotto, 2010 ; Darvas, Pisani-Ferry, and Sapir, 2011 ; Caporaso and Kim, 2012). These competitive differences between GIIPS and other core Eurozone states were difficult to correct without an independent exchange rate policy lost through euro adoption. (Hall, 2012 ; Chen et al., 2013; Pettis, 2013). Wages (measured by unit labor costs) and relative prices (measured by real effective exchange rates) are the major variables that shape competitiveness among countries and will demonstrate changes in relative competitiveness between Germany and the GIIPS between 1999 and the outbreak of the financial crisis in 2008 in figures 4 and 5.

We use percentage changes in unit labor costs to create a labor cost index that dates back to 1998 (year prior to the creation of the Eurozone). Using this index, Figure 4 displays German labor costs that declined by almost three percent between 1998 and 2007. Over this same period the GIIPS average labor unit costs increased over twenty-seven percent over this same period demonstrating a significant relative change in competitiveness between Germany and the GIIPS.

Figure 4. Unit Labor Costs For Germany and GIIPS Average (1998-2007)

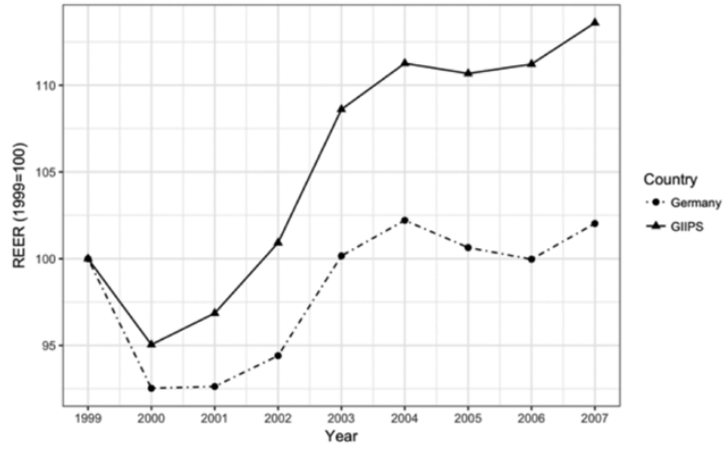


Source: OECD ; Unit Labor Costs 2017

Rising GIIPS wages and no corresponding increase in productivity relative to Germany (data in appendix) and higher inflation (data in appendix) produces higher prices of goods in the GIIPS making their products less competitive. This is directly reflected in prices on international markets measured by real effective exchange rates. Figure 5 reports data on real effective exchange rates that exhibits changes in relative prices between countries, a proxy for international competitiveness. We use a real effective exchange rate dataset created by Zsolt Darvas. This dataset calculates a nominal effective exchange rate (REER) index adjusted for relative movements in national price or cost indicators of the home country and 172 other major countries to create a REER index (Darvas 2012). To ensure clarity in reading the figure, we rebase the REER data from Darvas to create an index starting at 100 in 1999, the year of euro adoption. We are then able to easily measure and display the relative changes in competiveness up until the euro crisis.

Figure 5 demonstrates that in the period between euro adoption and the euro crisis, the GIIPS became less competitive relative to Germany. We are not interested in the actual level of these prices, but rather that prices rose in the GIIPS relative to Germany, implying that the GIIPS were in an increasingly disadvantageous position relative to Germany after euro adoption. This partially accounts for the trade imbalance between the GIIPS and core Eurozone states post euro adoption.

Figure 5. Real Effective Exchange Rate of Germany and GIIPS Average



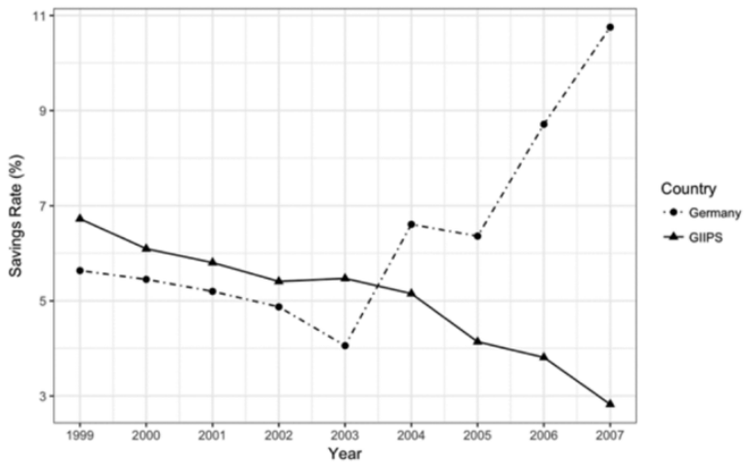
Source: Darvas 2012 (updated in 2017)

4.2 Savings rates

Competitiveness can partly explain the trade imbalance within the Eurozone, but a complementary explanation argues that competitiveness is a symptom of divergent savings rates within national economies (Wyplosz, 2017; Pettis, 2013). Rather than competitiveness, this work focuses on the gap between household production and consumption, which equals the domestic savings rate and leads to an abundance of domestic capital. The capital that is not consumed and invested has to flow to foreign countries where it could be used for investment or consumption. In the case of the GIIPS, capital flows led to consumption booms in Greece and Portugal and housing-construction booms in Ireland and Spain. All four countries increased their imports from Germany but a big source of increased demand was a direct reflection of the capital flows from North to South. This was the case in the GIIPS as capital stimulated increased domestic consumption rather than productivity. This left low-savings countries with growing debt, rising prices/lower competitiveness, and growing current account deficits. High saving rates in core Eurozone states made up for shortfalls in domestic demand by importing demand from the GIIPS.

The divergent domestic saving rates in Germany and the GIIPS in the five years leading up to the euro crisis are displayed in figure 6. The data below is produced by the OECD who classifies the domestic savings rate as the difference between disposable income (including change in net equity of households in pension funds) and the final consumption expenditure as a percentage of GDP (OECD 2017).

Figure 6. Domestic savings rates



Source: OECD; Saving rate; 2017

Figure 6 demonstrates that from the beginning of the Eurozone until 2003, Germany actually maintained a national savings rate slightly below the GIIPS national average. German savings rate only began to diverge from the GIIPS in 2004 (increased by almost three percentage points from 2003 to 2004). By 2007 the German savings rate was just under 11 percent, 8 percentage points above the GIIPS national savings rate average of 3 percent. This rapid divergence of savings rate correlates strongly with the escalation of trade between Germany and the GIIPS that is displayed in figure 2. Although it explains the large consumption boom and trade deficit in the GIIPS leading up to the euro crisis, it fails to explain the growing German trade surplus with the GIIPS in the early 2000s. Therefore, it cannot fully explain the trade imbalance within the Eurozone. This section demonstrates that both competitiveness and saving rates explain the increase in German trade surplus with the GIIPS, but neither fully on its own. The next section will demonstrate that both competitiveness and capital flows likely influence the re-balancing of trade after the euro crisis.

5. Tight link between Competitiveness and Balance of Trade

Since the euro crisis, trade balances between the GIIPS and both the world outside of the core Eurozone states and the core Eurozone states have begun to re-balance, which largely correlates to improvements in competitiveness and lower GDP per capita (data in appendix) rather than any significant changes in savings rates. We find that improvements in GIIPS competitiveness relative to

the world outside of the Eurozone has correlated to large increases in GIIPS exports that have closed their trade deficit. Whereas competitiveness in the GIIPS relative to core Eurozone countries have not improved as significantly and has been driven equally by lower imports due to lower levels of consumptions and higher exports. This next subsection focuses on data on competiveness changes in the GIIPS and Germany, the largest core Eurozone state.

5.1 Competitiveness Change Post-Euro-Crisis

In line with our previous section detailing competiveness changes before the euro crisis, we focus on wage and price data for the GIIPS countries and the core Eurozone state, Germany. Based on OECD data, Table 1 displays unit labor costs for the GIIPS countries and Germany. We rebased this data in 2008, to better display changes in wages since the beginning of the euro crisis in 2008.

Table 1
Unit Labor Cost Index (2008 = 100)

Country	2008	2009	2010	2011	2012	2013	2014	2015	Change
Greece	100	105.7	108.4	108.0	105.7	98.9	96.5	95.4	**-4.6**
Ireland	100	95.4	85.0	87.2	88.4	91.3	86.7	69.2	**-30.8**
Italy	100	105.2	105.2	105.7	106.7	107.1	107.1	107.5	**+7.5**
Portugal	100	101.9	100.4	97.8	93.6	94.8	93.9	94.3	**-5.7**
Spain	100	101.4	99.8	98.5	96.0	95.4	95.2	95.6	**-4.4**
Germany	100	107.5	105.8	106.4	109.3	111.0	112.8	114.5	**+14.5**

This table demonstrates that after the euro crisis, most GIIPS countries (except Italy) observed decreases in wages, including an extensive drop in Ireland. These wage decreases are larger relative to Germany whose wages actually increased in this period. These wage contractions result in improvements in their competitiveness relative to the rest of the world, but do not translate to a divergence from Germany in price levels on the international market, which are displayed in Table 2.

Table 2
Real Effective Exchange Rate Against 172 Trading Partners (Index 2008 = 100)

Country	2008	2009	2010	2011	2012	2013	2014	2015	2016	Diff.
Greece	100	100.9	99.8	100.2	96.1	96.1	94.3	89.1	89.8	**-10.2**
Ireland	100	98.1	90.4	89.3	85.3	87.4	86.5	80.2	81.2	**-18.8**
Italy	100	100.3	96.0	96.4	94.6	96.8	96.7	92.0	92.2	**-7.8**
Portugal	100	99.1	95.9	96.6	95.1	95.8	95.2	92.5	93.6	**-6.4**
Spain	100	99.5	96.1	96.7	94.4	96.4	95.8	91.3	91.5	**-8.5**
Germany	100	99.8	94.5	94.2	91.0	93.8	94.4	89.3	90.1	**-9.9**

Source: Darvas 2012 (updated in 2017)

Any reduction in the REER index displayed in Table 2 demonstrates changes in domestic prices relative to the rest of the world. Clearly the GIIPS improved their price competitiveness relative to the rest of the world (at least the 178 major countries measured by Darvas), but only Ireland witnessed a significantly higher drop in prices than Germany after the euro crisis. Given this, the REER data in Table 2 demonstrates that prices in GIIPS have fallen relative to the world, but not relative to a core Eurozone country such as Germany (except for Ireland). We would expect these different relative changes in price competitiveness to result in different types of trade re-balancing between core Eurozone states and the rest of the world. According to the data and the competiveness argument, trade re-balancing between the GIIPS and the world outside of the core Eurozone should be much more export-driven than between the GIIPS and core Eurozone states.

5.2 Domestic Savings Rates Post-Euro-Crisis

As illustrated in the previous section, domestic saving rates also influenced the trade imbalance between the GIIPS and core Eurozone states. Table 3 utilizes the same OECD dataset exhibited earlier and displays domestic saving rates calculated by the OECD after the euro crisis and demonstrates that there were not significant improvements in the saving rates gap between the GIIPS and Germany after the crisis.

Table 3
Domestic Savings Rates

Country	2008	2009	2010	2011	2012	2013	2014	2015	Diff.
Greece	-6.4	-10.0	-11.1	-13.0	-10.8	-9.9	-9.8	-9.7	**-3.3**
Ireland	3.4	-0.6	1.1	1.4	2.2	6.2	8.6	7.8	**4.4**
Italy	2.7	0.3	-0.3	-0.2	-0.8	-0.5	0.7	0.8	**-1.9**
Portugal	-5.7	-6.4	-6.4	-4.7	-4.5	-2.2	-2.5	-2.5	**2.7**
Spain	4.8	3.9	2.8	1.3	1.6	2.3	2.6	3.7	**-1.1**
Germany	9.2	5.6	7.6	9.7	8.6	8.4	9.5	10.1	**0.9**

Source: OECD

Post-euro crisis, the German savings rate continued to grow and within the GIIPS countries, only the savings rate in Portugal and Ireland grew enough to slightly decrease their gap in savings rates with Germany. Greece and Portugal are both still in extremely disadvantageous positions in 2015, in which they hold negative saving rates and are 19.8 percentage points and 13.6 percentage points lower than Germany respectively. Although these saving rate gaps exist following the euro crisis, it is important to note that capital flows into the GIIPS significantly dropped due to the instability of

markets, so although Germany maintained high savings rates, German capital was being exported to more stable markets other than the GIIPS. Therefore, domestic savings rates do not explain a large portion of the trade re-balancing and we instead focus on competiveness changes.

We focus on relative competitiveness in the GIIPS and measure whether this translates to the trade-balancing we would expect: (1) GIIPS trade-rebalancing with the world outside of the Eurozone is largely export driven, due to increased competitiveness, while (2) GIIPS trade-rebalancing between core Eurozone countries and the GIIPS is driven by decreased imports and increased exports due to less of a change in competitiveness. The following trade balance data supports these two claims.

5.4 Trade Data Post-Euro Crisis

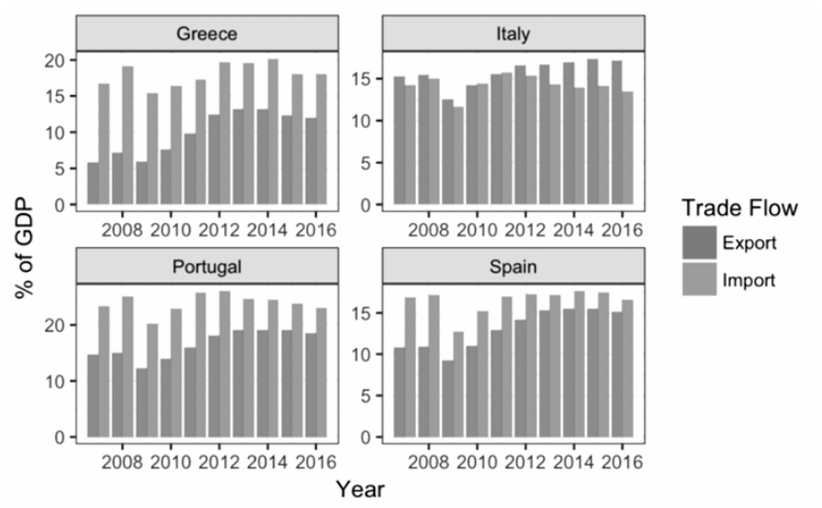
The following GIIPS balance of trade data displays two different trade re-balancing processes between the world outside of the core Eurozone and the core Eurozone. These trade rebalancing processes correlate to the price competiveness changes in the GIIPS goods relative to both the world outside of the core Eurozone and the core Eurozone. This is initially displayed using Table 4, which displays the changes in price competiveness and trade balance by year. We measure trade flows by dividing imports and export flows by GDP to account for lower levels of income and production during the recovery. It will also account for changing price levels in these countries (Wolff 2017). We decide to exclude Ireland, in this trade re-balancing analysis, because it actually maintained a trade surplus in relation to the world and the core Eurozone states and previously displayed very different wage, price, savings, and GDP per capita movement than the rest of the GIIPS. Ireland's reaction to the euro crisis through structural reforms and capital outflow barriers put it in an advantageous position relative to the other GIIPS countries. The stark difference in Ireland's initial position before the euro crisis and their reaction to the euro crisis makes them an exception among the GIIPS.

We divide GIIPS trade flows into two groups: (1) between the world outside the core Eurozone and (2) between the core Eurozone. The group of countries, core Eurozone, is made up of countries that joined the Eurozone in 1999. We avoid complications by excluding countries that joined the Eurozone directly before, during, and or after the crisis (Slovenia, Slovakia, Lithuania, Latvia, and Lithuania). Therefore, the core Eurozone group consists only of Germany, France, Austria, Belgium, the Netherlands, Luxembourg, and Finland. We begin our analysis at 2007 as the last year of data before the euro crisis and measure trade flows until 2016, the most recent year of UN Comtrade data.

Figure 7 displays the exports and imports to the world outside of the core Eurozone as a percentage of GDP. During and directly after the euro crisis, the GIIPS observed an initial drop in imports due to the economic recession (consequence of the crisis). Although the dip in imports was large (around

four or five percent of GDP in each country), they recovered. By 2016, import levels were back to 2007 levels in each country except Spain (below 2008 levels by one percent of GDP). They also all observed increases of exports as a percentage GDP of seven (Greece), five (Spain), four (Portugal), and two (Italy). Increases in exports and stable imports reduced trade deficits in Greece, Spain, and Portugal by more than half and doubled the trade surplus in Italy between 2007 and 2016.

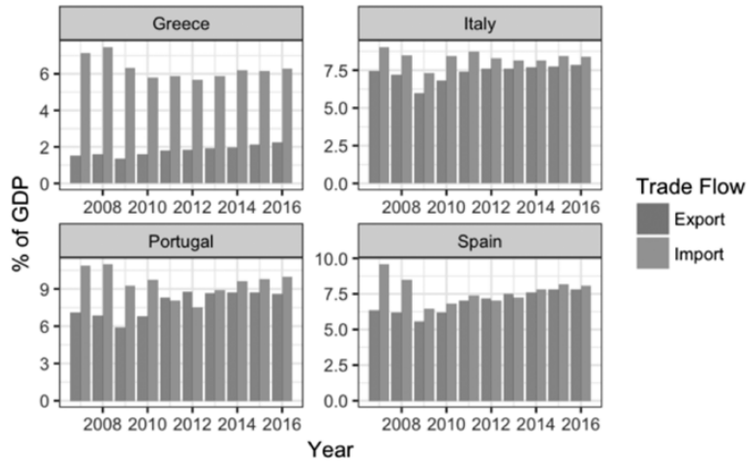
Figure 7. Exports and Imports to the World Minus Core EZ Countries as % of GDP



Source: UN Comtrade Data

Trade re-balancing between the GIIPS and the core Eurozone countries after the euro crisis relied much more on reduced imports than the GIIPS trade re-balancing with the world outside of the core Eurozone countries. Figure 8 displays trade flows between the GIIPS countries and the core Eurozone countries and demonstrates that after the initial drop in imports after the euro crisis, imports increased but never recovered back up to 2007 levels. By 2016, they were still lower than 2007 levels in Spain, Portugal, Italy, and Greece by two, one, one and one percent of GDP respectively. In this same period, exports increased in Portugal, Spain, by two percent of GDP and in Italy and Greece marginally by a half of a percent of GDP. This resulted in lower trade deficits in the GIIPS (most significantly in Spain, Portugal, and Italy), but lowered import levels accounted for about half of the reduction in their trade deficit.

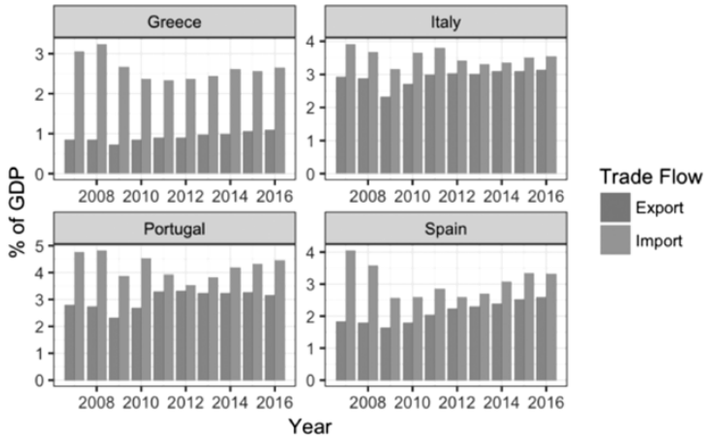
Figure 8. Exports and Imports to Core EZ Countries as a % of GDP



Source: UN Comtrade Data

The different GIIPS trade re-balancing between the world outside of the core Eurozone states and core Eurozone states is highlighted by the German case. The trade flows between the GIIPS and Germany are displayed in Figure 9. Trade rebalancing between the GIIPS and Germany was small and was driven most by import reductions rather than export increases. This is likely explained by the lack of any competitiveness convergence between the GIIPS and Germany after the euro crisis.

Figure 9. Exports and Imports to the World Minus Core EZ Countries as % of GDP



Source: UN Comtrade Data

The difference in trade-rebalancing between GIIPS countries and core Eurozone states and the world outside of the core Eurozone countries appears to correlate with the changes in relative competitiveness between these groups. GIIPS goods became more competitive relative to the world outside of the core Eurozone states, but not relative to core Eurozone states such as Germany. This translated to export increases accounting for the majority of the GIIPS trade re-balancing with the world outside of the core Eurozone states, while both increased exports and decreased imports equally accounted for the trade re-balancing between the GIIPS and core Eurozone states. Trade re-balancing through increased exports demonstrates a healthy economic recovery through increased domestic production, whereas trade re-balancing driven by decreased imports is driven by lower consumption. This difference in trade re-balancing appears to indicate that political-institutional barriers that caused the current account deficit in the GIIPS may also be hampering their economic recovery. These political-institutional factors, are explained in the next section.

6. Political-Institutional Factors

It is generally accepted that there were increasing capital flows from Northern to Southern Europe after the introduction of the Euro in 1999 (Wolff, 2011, p. 1; Jacoby 2017). Money became cheap in parts of the Eurozone where interest rates (hence borrowing costs) would have been higher. As Wolff put it, "Too low financing costs led to a misallocation of capital. Households and corporations both increased their borrowing and amassed substantial private sector debt." (Wolff, 2011, p. 1) In addition, these capital flows increased wage costs in the South and contributed to declining competitiveness as reflected in the widening gap in real effective exchange rates between Germany and the five GIIPS countries. Indeed, there is a striking nearly perfect (negative) correlation between credit growth and current account positions (Wolff, 2011, p. 3). The regression of current account deficit as percent of GDP on credit growth from 1999 to 2007 provides us with two groups of countries: the North of Europe with Germany, Austria, Finland, Netherlands, and Belgium and the South including Greece, Spain, Portugal, and Ireland with Italy and France occupying intermediate positions dividing the two groups. The credit flow cum competitiveness account provides a useful first cut at understanding the causes of the crisis. Nevertheless, it is a partial account that does not tell the entire story. Capital flows are not exogenous when they are the product of deeper political forces? In this section we deal with the political and institutional factors contributing to the crisis, making capital flows endogenous.

In purely economic terms, flows of capital from Northern Europe to Southern Europe made sense economically since capital was flowing from areas of relative abundance to areas of relative scarcity. The uniform interest rate that came with EMU was even more attractive in the South because of higher

inflation rates there. In other words, real interest rates were lower in the South because of inflation. The differences in risk in making a loan to an entity in the North vs. the South were apparently not priced in, reflecting a market failure in capital markets. This made the south an attractive destination for credit. Low real interest rates, along with higher (expected) marginal productivity of capital in areas where capital was scarce, assured that excess savings travelled in a North-South direction. This all made economic sense, at least in the short run, yet it proved to be a formula for disaster.

Once capital arrived at its destination, it went to work stimulating demand, in Greece and Portugal for consumption (Gros, 2012, p. 1), in Spain and Ireland for housing and construction. Portugal experienced only some of these early boom effects, but as Lourtie (2012, p. 56) shows, Portugal was substantially "out of sync" with the periphery especially in that it did not share the growth rates of Spain, Greece, and Ireland.[2] Also, Italy did not have the same boom, either in construction and housing, or consumption. In terms of causal etiology, the five GIIPS were by no means homogenous in terms of their positions during the run up to the crisis, yet they emerged as a convenient "GIIPS" category after outbreak of the crisis.

Despite differences, the infusion of capital in the South raised costs and generated inflation that diverged from Germany. Differences in wages led to differences in prices which in turn worsened real exchange rates in the periphery and ultimately, worsened the trade accounts, making for trade deficits. Of course, if the affected countries had their own currencies, they could have met the adjustment problem with currency depreciations. This would not have been without its own problems but it would have provided a quick, not painless, response, one where the burden of adjustment would have fallen on consumers and producers who relied on foreign inputs.

This is the core of the competitiveness story. It is not wrong so much as it is incomplete. Indeed, it has the great advantage of debunking the claim that trade relations "caused" debt, a claim that gets the causality backward. As Jacoby (2017) shows, this claim is not supported by the timing of credit flows and deteriorating trade relations. The credit boom preceded the trade deficits and exports from the GIIPS did not fall off during the ten years from the introduction of the Euro to the outbreak of the crisis, as would have been predicted by those focusing on REERs and the trade account. Embedding the competitiveness story in a larger narrative about the origins of capital flows provides not only a more complete picture, but also a more accurate one since the political context for capital flows and changes in real exchange rates lies within domestic politics. If capital flows, changing REERs, and trade balances can be seen as products of the political-institutional environment of both Northern and Southern countries, this reframes a narrative which is largely a morality tale (reckless Southerners

[2] Indeed, Portugal grew only slowly after 2001 and went into recession in 2003 (Lourtie, 2012, pp. 56-57).

vs. stolid disciplined Northerners) into an inevitable conflict among somehow unwitting participants.

The simple question "what is the origin of capital flows within Europe"? is useful because it triggers the search for the political causes of these flows. Indeed, there is a political and institutional matrix within which these imbalances occur. But beyond the institutional origins of trade imbalances there are also numerous policies carried out by the German government that worsen these imbalances. We deal with institutions and policies separately. Peter Hall (2012) approaches the institutional question from the standpoint of varieties of capitalism literature. Essentially, he hypothesizes that there are two types of capitalist systems, one that works within an institutional setting of coordinated capitalism, with appropriate labor market institutions, and high levels of domestic savings (total production is greater than consumption, government spending, and investment). These coordinated economies depend heavily on exports to take up the slack in domestic demand. Germany is the archetypical high saver, high export country that depends on world demand to fuel economic growth (Hall, 2012, p. 357). Low wages, relative to productivity, seem to be required in this system to keep costs down, though there are other ways of doing this too, e.g. producing in niche areas that are hard to imitate and that are price inelastic.

It should be noted that being a high-saver, export-oriented country is not a simple policy decision but requires extensive supportive institutions within labor and capital markets. The institutions of coordinated market economies (CMEs) are designed so as complement one another on issues of stakeholder protection, the skilling of workers, strategic coordination in capital markets (rather than fluid labor markets), and inter-firm collaboration. CMEs refer to a type of political economy that is very distinct from liberal market economies. This has led scholars to speak of comparative institutional advantages. (Hall and Soskice, 2001)

The other type of capitalist economy is in many ways the mirror image of the German model. This is the Southern European economy which is demand driven, does not have coordinated institutions to organize wage bargaining, has low levels of savings and is more prone to periods of booms and busts, precisely because of weak regulations in key financial sectors. Governments in these economies are not likely to have policies that foster savings and they are open to other economies, especially those that are capital abundant, to fund shortfalls in domestic savings. Thus trade deficits and capital inflows come together. While these two types of systems are very different from a systemic standpoint, they are complementary and need one another. This is a case where unit divergence leads to systemic interdependence, though often not in congenial ways. Export oriented countries rely on countries with chronic balance of trade deficits to buy their products just as the deficit countries rely on the exporters to fund their capital shortages.

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The dominant ideology behind German economic policies, even if inconsistently used, is ordoliberalism (Brunnermeier et al., 2016). We do not have space to discuss ordoliberalism at length but refer the reader to relevant sources (Brunnermeier et al., 2016; Jacoby 2017; Dullien and Guerot, 2012). The dominant ordoliberal narrative is that Germany enjoys export success because they produce desirable products at the low prices, and that these low prices are a product of painful domestic reforms. This description comes with a built-in defense since it seems to be the definitional embodiment of productivity (high quality products at low cost). Thus German officials seem genuinely puzzled when criticized for their trade surpluses and sometimes respond by asking questions like "do you want us to produce goods of less quality at higher prices?" The solution seems obvious to German officials: firms in other countries should produce better goods at lower prices. Nevertheless, the institutional structure of German domestic politics gives Germany a number of advantages in undertaking supply side reforms involving labor cooperation, undertakings that are more difficult in political systems built on adversarial principles, particularly with regard to capital-labor relations.

Germany's domestic institutions may provide advantages in carrying out reforms, cutting costs, and preparing German firms to compete globally. But the institutional setting does not dictate specific policies. Cooperation among unions and corporations could be in the service of numerous goals. The trade imbalance issue is worsened by numerous policies carried out by the German government, particularly policies concerning wages and labor markets, savings, investment, and taxes. In every case, these policies have the effect of increasing domestic savings and dampening consumption. Of course, the higher the rate of savings and the lower the domestic consumption, the greater the reliance on external consumption to balance the accounts.

This is where the story about institutional origins of the trade imbalances meets up with German policies that reinforce the high savings export-oriented German system. Jacoby makes a convincing argument that movements in Germany's capital account are driving both competitiveness and trade (2017, p. 15). The origins of the imbalances lie not in Germany's proclaimed manufacturing superiority but in domestic imbalances in wage growth, savings, consumption and investment. The brief and inevitably simplified version of this story is that Germany has suppressed wage growth, thus lowering private domestic consumption, has lowered domestic investment in infrastructure, but has increased savings whose natural outlet had to be exports. In short, Germany became "disruptively reliant" on exports to sustain domestic production (Jacoby, 2017, p. iv). This position is supported by Barry Eichengreen, a monetary economist who specializes in regional integration schemes.

"Back in the real world, the explanation for Germany's external surplus is not that it manipulates its currency or discriminates against imports, but that it saves more than it invests. The correspondence

of savings minus investment with exports minus imports is not an economic theory; it's an accounting identity. Germans collectively spend less than they produce, and the difference necessarily shows up as net exports." (Eichengreen, 2017)

Why is Germany so fond of trade surpluses? (Whyte, 2010, p. 12) With a strong domestic focus on competitiveness and German superiority in manufactures, positive trade balances apparently provide symbolic confirmation of that superiority. In line with this, there are various German policies that work to give Germany an edge in global and European competition. Given its system of industrial relations, Germany has been successful in holding down wages, thus improving trade balances and worsening domestic consumption at the same time. Wage suppression below productivity gains also shifts income from labor to capital, substituting a low consumption class for a higher one. An additional unit of income for a wealthy person is less likely to be spent than an additional unit for a person of less means. Also, there are tax policies, such as the relatively large value added tax that Germany's government places on consumption. The VAT in Germany is about 19%, up from 16% in 2006. This also has the effect of holding down consumption. Savings also work against present consumption. Savings increased from 9% in 2000 to 12% in 2009. As Whyte points out, some of the increased savings is structural (aging population) and some is likely to be cyclical, e.g. uncertainty about job prospects, loss of stock value due to the financial crisis etc. But the bottom line is that savings are increasing and the structural-demographic component of increased savings is likely to continue to rise. To round out a pessimistic picture in Germany domestically, Whyte (2010, p. 4) notes that there has been a sharp fall in business investment and in government spending on infrastructure.

All in all, this is a pretty dismal picture and one that is unlikely to change in the near to medium term. For that to happen, Germany would have to be convinced that it was in its self-interest to see wages and consumption increase and to rely a bit less on the urge to sell its domestic surpluses to others either in the Eurozone or outside. Signs of recovery of the trade balances in the Eurozone do not signal a balanced situation globally.

7. Brief Comparison with China

Export surpluses (and deficits) are not new phenomena. Indeed, the purposeful pursuit of a positive balance of trade was a central tenet of mercantilist theory. China, Germany, Russia, South Korea, the Netherlands, and Italy (surprisingly) are the highest surplus countries (2016) while the United States, United Kingdom, Canada, Australia, and Saudi Arabia are the largest deficit countries. It is tempting to speculate about causes, e.g. the existence of a high savings, high export orientation among the

surplus countries and a strong consumptionist (low savings) orientation among the deficit countries. It is impossible to ignore that the top four deficit countries belong to the Anglo-Saxon model of capitalism which sacrifices coordination between labor and capital in favor of flexible labor and capital markets. There is little sign of "patient capital" and "stakeholder capitalism" in this group and little sign of high rates of savings. In 2005, The Economist reported ("The Shift away from Thrift", 2005) that the US, UK, Canada, Australia, and New Zealand had the lowest rates of savings in the OECD. It is also tempting to see in China, Germany, Russia and the Netherlands a high savings, high export orientation. While these are interesting hypotheses, examining the evidence in a systematic way is beyond the reach of this paper.

Why do Germany and China runs persistent balance of trade surpluses? In the German case, the first answer often given is that Germany is more productive than others. Ignoring for the moment that this is not true, it does not work even as a rhetorical strategy regarding China and its chief trade partners, chief of which is the U.S. Clearly, by whatever measure of productivity, the U.S. is more productive than China. A second popular explanation (popular especially in the importing countries) is that China manipulates is currency, the renminbi. While there is no doubt some truth in this, China's trade surpluses are robust and have survived substantial ups and downs in its currency. We hasten to add that this does not mean that currency movements do not affect trade, but there are other less obvious factors that need to be taken into account (Pettis, 2013, pp. 66-68).

Where then should we search for explanations of Chinese surpluses? As with Germany, the focus should be on the relationship among basic economic aggregates, in particular production, consumption (private and government), investment and savings. The key idea is that if total production exceeds total consumption plus investment there must be something left over, which is called savings. These savings, since they are neither consumed nor invested domestically, have to find their way abroad as capital flows, and these capital flows then become the financial resources used to buy the capital exporting country's exports of goods and services. In a way, the argument is a tautology based on trade accounting identities. Yet it is still meaningful to argue in favor or either the current or capital account as driving the other. In the European case, capital flows preceded trade flows. Subsequently, the capital inflows in the periphery were used to purchase Northern (mostly German) goods. It is not as obvious that this is going on in the Chinese case, since we do not naturally see China as a capital-abundant, capital-exporting country. But it is, in fact, exactly that though much more by political design than by natural factor abundance.

To see how China has managed to generate a high rate of savings and high level of capital exports, we have to understand Chinese policies. The Chinese economy is based on a strong version of high

savings, high investment, and high exports which has delivered high levels of unbalanced growth for several decades. China's economy is unbalanced in a very different way from that of the U.S. While the U.S. privileges consumption and downplays investment and savings (especially the latter), China puts savings and investment at the center and downplays consumption (Pettis, 2013, p. 70). Max Corden estimates that in 2006 the rate of domestic savings relative to GDP was as high as 50%. Of this, household savings was about 15% of GDP and 28% was the savings of enterprises. The high rate of personal household savings was driven by several factors, among them weak social welfare protections, small pensions, and in general a very insecure environment for those of retirement age. Consumption was also kept low by the slow rate of wage increases among unskilled workers due in part to the inflow of labor from rural areas to urban centers (Corden, 2009, pp. 7-8). Inevitably, the high rate of savings went abroad to utilize foreign consumption to soak up the demand deficits in China.

To be sure, there are numerous Chinese policies that affect the rate of savings, and thus its export surpluses. These policies could be changed and indeed they are to some extent being changed. Some factors are structural and more or less outside the control of government, such as demography. There is a huge aging population that is about to enter retirement. China has had several fortunate cards to play which will not likely be repeated. China could in past decades count on cheap labor and capital, adequate water supplies, and growing international markets. None of these is assured in the years ahead. The ageing population and the exhaustion of the "demographic dividend" of large families of the 1950s and 1960s, before China switched to the "one child" policy, will mean that "China will soon confront the most severe aging process in human history". This transition will alter the demographic pyramid changing the ratio of workers to retirees from 8:1 in 2012 to 2:1 by 2040. (Beckley, 2011/2012, p. 61). In part, correctives to China's unbalanced growth are already in play in these demographic changes. In part, it remains for Chinese leadership to reset the balance between consumption, investment, savings, and economic growth. Measures could be taken to increase interest rates on domestic savings, strengthen the renminbi (which would increase purchasing power of workers), and improve the social safety net. Consumption would increase among those classes sidelined by the fruits of economic growth, savings would decline, and trade would become more balanced. Of course, all of this is much easier said than done.

There are some reasons to be optimistic. Chinese leaders since Deng have accepted the basic framework of rules of the international economic order, even though such rules were created by the U. S. These rules include multilateralism, generalized reciprocity and the judicial rulings of the World Trade Organization (Ha and Posen 2017, p. 4). China seems intent on being a global player

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and perhaps recognizes that a persistent balance of trade surplus is not healthy for the global economy, or for China in the long run. In addition, China does not have the burden of a systemically harmful ideology such as ordoliberalism, which restricts German thinking on the matter. True, nearly every country finds a place for mercantilism within policies that otherwise are outwardly "liberal", but the signs are that China recognizes the positive sum nature of much international politics.

The U.S., for its part, could be more measured about the imbalances and attempt to see the trade deficit process as the outcome of more than protectionist schemes and "deals" badly made, a favored explanation of President Trump. To be sure there are distortions in the international political economy but also within domestic markets and politics. There is much that could be done to counter the low rate of savings in the U.S. This is not a problem made in China. At the time of this writing, a tax bill is being debated in Congress. Provisions related to deduction of mortgage interest, carried interest, deduction of real estate taxes and so on all have the potential to affect the savings rate. Of course, every provision is a social program in disguise, a point that has been made many times.

It is ironic that Germany, a late developing country, and China, a late-late developing socialist country, should be cast in the contemporary examples of underconsumptionist economies in search of foreign demand. They both seem to be using a playbook written by John Hobson, the underconsumption theorist (1902). According to Hobson, "leading capitalist economies turned to imperialism primarily in order to export surplus savings and import foreign demand as a way of addressing the domestic savings imbalances." (Pettis, 2013 p. 4) Hobson located the taproot of imperialism in the tendencies of capitalist economies to polarize wealth. Savings could be used for private investment, but this would do little good if consumption were constrained by the limited purchasing power of workers. But polarization of wealth and imbalances between consumption, investment, and savings can also create problems for socialist systems. Both systems, one advanced capitalist and one socialist, seem to be driven by the same set of macro-economic dynamics, and despite significant differences, rebalancing the dynamics of savings, investment, consumption and trade are called for in both countries.

8. Conclusion

Popular conceptions of trade imbalances focus on cultural or predatory explanations and miss the larger structural political-institutional differences that drive global trade imbalances. This manuscript demonstrates that both competitiveness and saving rates driven by political-institutional differences are the culprits of trade balance divergences. Using data from before and after the euro crisis, this manuscript demonstrates that political-institutional factors produced competitiveness and savings rate

divergences that created trade imbalances between core Eurozone states and the GIIPS before the crisis and remained an obstacle to the GIIPS economic recovery. Political-institutional factors in core Eurozone states drove down domestic consumption and increased domestic savings, inevitably driving domestic capital to capital-scarce countries where it generated a stimulus that weakened the competitive position of these countries. Post-crisis, the GIIPS increased their competitiveness relative to the rest of the world, but not with core Eurozone states such as Germany. This improved relative competitiveness resulted in re-balanced trade between the GIIPS and the world outside of the Eurozone almost exclusively through export increases. This differed from GIIPS trade re-balancing with the core Eurozone states that was driven equally by import reductions and export increases. GIIPS trade-rebalancing with the core Eurozone states is less ideal as trade deficit reductions are partly driven by reductions in consumption rather than increases in production. This manuscript contends that the symptoms of political-institutional factors, such as competitiveness and saving rates may explain the current account divergence before the euro crisis and subsequent trade re-balancing after the euro crisis.

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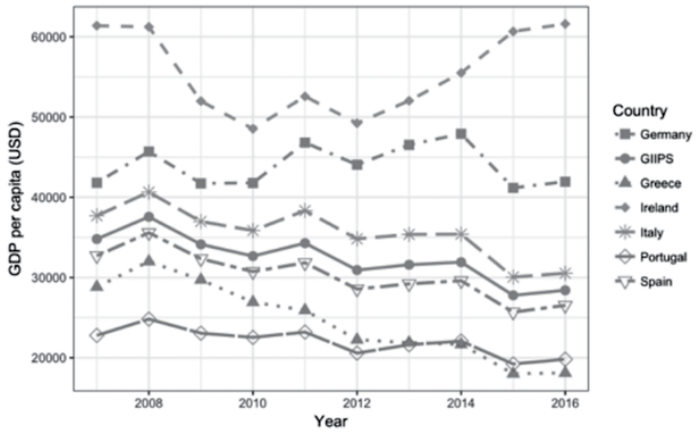
Appendix

1. GDP per capita

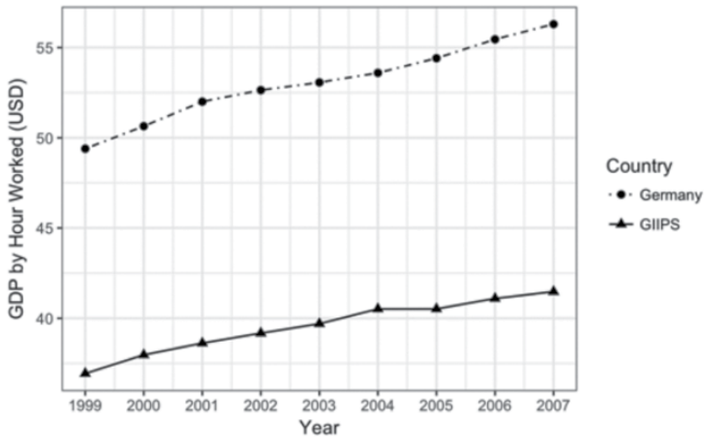
Figure. GDP Per Capita in GIIPS countries and Germany



Source: World Bank

2. Productivity

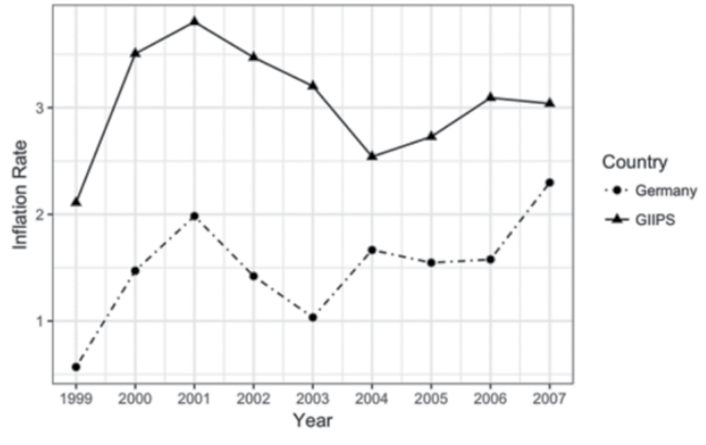
Figure. Productivity of Germany and GIIPS Average (1999-2007)



Source: OECD ; GDP Per Hour Worked ; 2017

3. Inflation

Figure. Domestic inflation of Germany and GIIPS Average (2000-2016)



Source: World Bank ; Inflation, Consumer Prices; 2017