

Trade Imbalances and Multilateral Trade Cooperation

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Abstract

Rising current account and merchandise trade imbalances marked the years before the global financial and economic crisis. These imbalances either contributed to or precipitated the crisis and to the extent that they create systemic risks, it is desirable that they be reduced. There are many factors related to macroeconomic, structural, exchange rate and financial policies that contributed to the imbalances. The inability to manage these issues at the international level reflects the “coherence gap” in global governance. This paper examines the contribution that the WTO can make in its three areas of activities — negotiations, rule-making and dispute settlement — to deal with trade imbalances and with the main factors leading to them, including exchange rate misalignments. First, market opening efforts in services, including in the area of financial services, can reduce policy-related distortions and market imperfections in surplus countries that lead to the build-up of unsustainable imbalances. Second, in the context of a broad international effort to coordinate macroeconomic, exchange rate and structural policies to deal with the roots of imbalances (the first-best solution), there is a general efficiency argument that could be made for the use of WTO-triggered trade actions to enforce cooperative behaviour towards rebalancing. Absent this first-best response, trade rules alone would not provide an efficient instrument to compensate for the weaknesses in international co-operation in macroeconomic, exchange rate and structural policies.

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A. Introduction

The years prior to the global financial and economic crisis were marked by rising current account and merchandise trade imbalances. According to some authors, these imbalances either contributed to or precipitated the crisis (e.g. Obstfeld and Rogoff, 2009). And many agree that, to the extent that these large imbalances create systemic risks, it is desirable that they be reduced (e.g. Blanchard and Milesi-Ferretti, 2009 and 2011). One frequently mentioned factor contributing to the build-up of imbalances is persistent exchange rate misalignments, i.e., an exchange rate that is above or below its equilibrium level. But this is not the only one; other factors related to macroeconomic, structural and financial policies, are also relevant in that regard.

This paper seeks to examine the contribution that the WTO can make in its three areas of activities — negotiations, rule-making and dispute settlement — to deal with trade imbalances and with the main factors leading to them, including exchange rate misalignments. Beyond that, the paper also touches on the need to correct failures in international co-operation, which have allowed those imbalances to pose such a threat to the global economy.

The structure of the paper is as follows. Section B describes the pattern of current account and trade imbalances both before and after the crisis and identifies the main reasons provided to explain them. Section C explains what we know about the effect of exchange rate changes on the trade balance both in the short-run and the long-run. Section D describes GATT and GATS rules and disciplines on exchange rate policy, the balance of payments and trade measures. In addition, it discusses the role that trade-contingent measures (anti-dumping, countervailing duties and safeguards) play in responding to the adverse trade consequences of misaligned exchange rates. Section E examines the possible role of the WTO in addressing imbalances. In particular, that section will discuss the role that financial reform and liberalization of trade in financial services, litigation and rule-making can play in unwinding imbalances and preventing persistent exchange rate misalignment. Section F offers some final remarks.

B. Current Account and Trade Imbalances: Facts and Causes

I. Stylized Facts

We begin by highlighting important trends and patterns in the current and merchandise trade accounts of countries.¹ The world witnessed a large build-up of current account and merchandise trade imbalances, both in absolute and relative terms, prior to the global financial and economic crisis (see Table 1 and Figure 1). In 2000, China had a current account surplus of only \$20.5 billion while Germany was actually in deficit. Seven years later, China's surplus had grown to nearly \$354 billion while Germany's shot up to \$248 billion. By the same year, Saudi Arabia was generating a surplus equal to a quarter of its GDP while Greece and Spain had deficits exceeding a tenth of their GDP.

Current account/merchandise trade surpluses were most pronounced among the East Asian economies, oil exporters and the "core" euro-zone countries (Germany, Netherlands). The United States and the euro-zone periphery countries (Greece, Ireland, Italy, Portugal and Spain) had large and persistent deficits. Beyond simply their size, the fact that a country's surplus or deficit tended to be concentrated on a handful of trade partners was bound to heighten their political sensitivity (see Figures 2-3). For instance, the US trade deficit with China in 2007 (\$275 billion) was more than three times larger than its deficit with Japan (\$87 billion), the next biggest source of its merchandise trade imbalance.

While imbalances contracted after the crisis (see the narrowing of the distribution of imbalances shown in Figure 4), they remain large in absolute terms and relative to GDP. Even after falling from its peak in 2007, the US merchandise trade deficit amounted to \$783 billion in 2011 which is about 5% of its GDP. Further, without changes in economic policies

¹ Although the current account differs from the merchandise trade account by the amount of services trade and international factor payments, the two are highly correlated for most countries. The current account is defined as $X - M + R$, where X and M are exports and imports of goods and services, and R equals international factor payments. Macroeconomic balance requires that $Y = C + I + G + X - M$ where Y stands for GDP, I for investment, and G for government spending. If we let T equal taxes, we can re-arrange the equation to get: $X - M + R = [(Y + R - T) - C] + (T - G) - I$. This says that the current account is equal to the difference between domestic saving (made up of private and government saving) and domestic investment. A current account surplus is created if domestic savings exceeds domestic investment: a current account deficit ensues if domestic savings is less than domestic investment.

large imbalances are liable to return once the global economy emerges from the crisis (Knight and Wang, 2011).

II. Explaining Current Account and Trade Imbalances

International trade theory, being concerned with explaining the pattern of trade, assumes that trade is balanced between any pair of countries. This is equivalent to the requirement that the value of production equal the value of consumption in every period. To explain imbalances, one must relax this assumption and allow countries to consume more (or less) than they produce at any given period of time although they still face a long-term budget constraint (the present value of consumption cannot exceed the present value of output). Imbalances reflect inter-temporal trade, i.e., a situation in which a country exchanges present for future consumption with its trading partner. An excess of savings over investment allows surplus countries to acquire claims on assets owned by deficit countries which in turn provide the latter with the wherewithal to consume more than they produce. Imbalances therefore reflect international differences in aggregate savings and investment behaviour.

However, the economic identity that links savings/investment behaviour to the current account makes it clear that variables on both sides of the equation are endogenous. Shocks to the trade account can affect the savings-investment gap. A positive shock to the export sector — an increase in oil production from new finds — increases output and, assuming investment opportunities at home remain unchanged, can lead to greater savings (trade surplus).

Current account imbalances are the outcome of cross-country differences in saving patterns, investment patterns and the degree of risk or liquidity of different assets. These differences are sometimes “good” (leading to “good” imbalances) and sometimes “bad” (leading to “bad” imbalances), to borrow the distinction from Blanchard and Milesi-Ferretti (2009). Those differences in saving patterns, investment patterns, and assets are “good” when they are a natural reflection of differences in levels of development, demographic trends, and other underlying economic fundamentals. But they may be “bad” if they reflect distortions, externalities, and risks, at the national and international level.

Familiar examples of "good imbalances" include the following: the running of current account surpluses (as a result of saving) by countries whose population is aging faster than their trading partners'; the running of a current account deficit in a country presenting attractive investment opportunities (and therefore relying on foreign saving); and the running of a current account deficit by a country that has deeper and more liquid financial markets that attract foreign capital and therefore leads to currency appreciation. In these cases, it would probably be unwise to take specific measures to reduce imbalances, since the latter reflect an optimal allocation of capital across time and space.

"Bad" examples may be symptoms, *inter alia*, of underlying domestic distortions. For example, high private saving may be reflecting a lack of social insurance, which forces people to engage in high precautionary saving. Or it may reflect poor firm governance, which allows firms to retain and reinvest most of their earnings. Conversely, low private saving can be motivated by bubble-driven asset booms, or excessively optimistic expectations about future growth. Poor protection of property rights or lack of competition in the financial sector can lead to excessively low investment. In all these cases, the purpose of policies should not be to reduce the resulting current account imbalances *per se*, but to tackle the underlying distortions. Doing so might ultimately reduce imbalances but this is not the main goal.

Turning now to the pattern of current account and trade balances in recent years, one explanation for the rise of surpluses is the "savings glut" in emerging East Asia, which can be explained by its demographic structure (Wei and Zhang, 2011), a still fledging social welfare system (Blanchard and Giavazzi, 2006; Chamon and Prasad, 2010), the lack of financial and capital market development (Forbes, 2010), and the build-up of foreign exchange reserves to guard against a repeat of the financial crisis of 1997-98 (Gruber and Kamin, 2007). On the other side of the ledger, deficits in the United States have arisen mainly because of the low personal savings rate, which averaged just 2.8% of income in the years preceding the crisis, and federal government deficits (Chinn and Ito, 2008). The US has also proven to be a magnet for global savings because of its attractiveness as an investment destination, the depth and sophistication of its financial markets and the role of the dollar as leading international reserve currency (Bernanke, 2005). The role of an undervalued renminbi in the US-China

trade imbalance has also figured prominently in the literature. We discuss the impact of exchange rate misalignment on trade imbalances in greater detail in the next section of the paper.

There are a number of ways to explain the pattern of imbalances in the euro-area. For instance, one can ascribe them to differences in fiscal policy and economic performance (Fatas and Mihov, 2010). However, following Mundell's (1961) classic analysis, the most compelling explanation for the imbalances is that they reflect a failure by countries in a single currency area to achieve the required degree of flexibility and openness in product, services and labour markets. This has led real wages to grow out of line with productivity improvements in many euro area members. Financial markets may have misjudged the extent to which these divergences were occurring given the smooth introduction of the euro and the discipline imposed by the Growth and Stability Pact. Thus, the markets continued to facilitate the flow of capital from core to periphery euro-area members even though the misalignment of wages and productivity eventually required a violent reversal. This point is further elaborated on in section E.I.

Prior to the global crisis, there were those who viewed current account and trade imbalances benignly as a reflection of global capital market integration which allowed a more efficient allocation of savings from surplus countries to deficit countries, where they earned a higher return (Cooper, 2005). This benign perspective applied equally well to the US and China trade balance. Dooley et al. (2006), in particular, argued that the cross-border transfer of goods and services to the US in exchange for China's financing of US deficits resulted in the successful employment and integration of tens of millions of workers to the global economy. This view implies that the imbalances are sustainable and not subject to sudden reversals.

However, since the advent of the global crisis many more have seen an intimate connection between the imbalances and the crisis. A nuanced view is that while the imbalances may not have caused the crisis, they reflected and magnified the ultimate causal factors behind it (Obstfeld and Rogoff, 2009). The large pool of savings from surplus countries, lax oversight in capital markets and poorly understood financial innovations created a toxic cocktail that led to the crisis. A harsher assessment is that a substantial part of the imbalances reflected

economic distortions. Large and unsustainable public sector deficits, restrictions to competition in financial and other services markets, and rigid or undervalued exchange rates contributed to the misallocation of savings. Even the accumulation of reserves as a form of self-insurance is costly, since it is globally inefficient relative to alternative forms of insurance, such as the establishment of credit lines, reserve-pooling arrangements, and swap lines (Blanchard and Milesi-Ferretti, 2009). Beyond these costs, the large imbalances played a significant role in the build-up of systemic risk. They contributed to low interest rates and to large capital inflows into US and European banks, which in turn contributed to a search for yield, higher leverage, and the creation of riskier assets (IMF, 2009).² The main risk nowadays is that the adjustment will be disorderly and detrimental to global macroeconomic and financial stability. Should the financial flows complementing current account deficits suddenly reverse course, economies with large deficits will suffer disorderly currency depreciations, and domestic financial sectors might also struggle to efficiently absorb the financial inflows that are the counterpart to the current account deficit. Moreover, the large balance sheet positions that emerge as a consequence of gross financial flows can entail risks because the assets (accumulated outflows) and the liabilities (accumulated inflows) are not interchangeable (Bank for International Settlements, 2011).³

This implies that the economic conditions that bred global imbalances need to be unwound with both surplus and deficit countries contributing to the rebalancing. Deficit countries need to shift from domestic to external sources of demand, and surplus countries need to shift in the opposite direction. A comprehensive solution requires that the policies, regulatory weaknesses and structural features that created the imbalances all be addressed. Focusing on just one problem will be unlikely to do the trick. Furthermore, the existence of systemic risks means that individual countries may not be fully taking into account the cost of the distortions nor the benefits from rebalancing. This suggests that any solution will require international co-operation. We shall examine the issue of what international co-operation, and

² Reinhart and Rogoff (2009) find that between 2003 and 2007, the trajectory of the US current account deficit...was far larger and more persistent than was typical in other crises. See figure 13.5 and the explanation in chapter 13 of Reinhart and Rogoff (2009).

³ The Bank for International Settlements (2011) explains for example that foreign assets held by some residents, for instance pension funds, cannot generally be used to repay the cross-border debts owed by some other residents, such as real estate developers. And the currency, liquidity and credit risks of assets and liabilities are also likely to vary considerably: the risk characteristics of the pension fund's equity portfolio are very different from those of the real estate developer's loans.

specifically, the WTO could contribute to reducing these distortions and systemic risk in greater detail in Section E.

C. What Do We Know About the Impact of Exchange Rates on Imbalances?

Exchange rates affect trade flows through two main channels: currency volatility and misalignments. The first is the extent to which exchange rates move up or down over time. On average, currency volatility is perceived to have a negative impact on trade. This effect, however, is generally found to be small, even though it can be relevant for certain producers or countries that have difficulties hedging against volatility (Auboin and Ruta, 2012). More importantly, the theory does not give a prediction that exchange rate volatility will affect the trade balance, but rather that it will lower both imports and exports. Hence the focus of this section is on currency misalignments, that is, on the effects on the trade balance of an exchange rate that is above or below its equilibrium level following a devaluation or a revaluation of the currency. An important distinction to be drawn is between the immediate and the permanent effects of currency misalignments. This key distinction is reflected in the organization of the two subsections below.

I. Exchange Rates and the Trade Balance: the Short-run

In the short-run, prices and wages may be fixed or slow to adjust. This price "stickiness" implies that movements in the level of the nominal exchange rate can alter relative prices in the economy. These changes, in turn, affect economic decisions and thereby influence international trade flows. Consider, for instance, the short-run impact of currency devaluation. How will the trade balance of a country respond? In textbook models with fixed prices, the nominal devaluation corresponds to a real fall in the value of the domestic currency. Foreign goods become more expensive relative to domestic goods and consumers (both at home and abroad) switch to buying more of the latter and less of the former. As a result, imports fall, exports raise and the trade balance of the domestic economy improves.⁴

⁴ Any international economics textbook contains a detailed description of this basic mechanism. See, for instance, Feenstra and Taylor (2008).

Is there empirical evidence of the short-run responsiveness of the trade balance to nominal exchange rate changes? Any study that addresses this question using aggregate trade data suffers from a basic problem: the trade balance itself affects the value of the exchange rate.⁵ One way to address this econometric problem is to focus on firms rather than on aggregate trade flows. This is because individual firms' decisions to export respond to the level of the currency but each firm individually is unlikely to have an impact on the exchange rate. Using a dataset of French exporters, Berman *et al.* (2012) show that aggregate trade is not very responsive to exchange rate movements. On average, a 10% devaluation of the currency vis-à-vis a trading partner leads to an overall increase in the volume of trade of 10% in the short-run (i.e. unit elasticity). Other studies that apply the same methodology to detailed dataset of exporters from China and Brazil (respectively, Chatterjee *et al.*, 2012; Tand and Zhang, 2012) find similar results.

There are several factors that limit the responsiveness of the trade balance to exchange rate changes. First, if the devaluation is unexpected and, therefore, is not embedded into pre-signed trade orders, the value of imports increases and that of exports decreases on impact. This suggests that the short-run impact of currency devaluation on the trade balance, rather than being linear, should look more like a J-curve with an initial worsening and then a subsequent improvement. The short-run impact of exchange rates on trade flows also depends on the currency in which domestic producers invoice their products. The case where a nominal devaluation leads to a one-to-one real devaluation assumes that producers set price in the home currency. However, a large empirical literature shows that the use of the local, a foreign or a third-country currency such as the US dollar by producers depends on a plethora of variables that vary by country (Goldberg and Tille, 2008). Finally, a third factor affecting this relationship is the trade structure itself. For instance, a high import content of exports (as in the case of economies that are part of global value chains) lowers the impact of a devaluation on the trade balance as exporters pay a higher price to source their inputs.

⁵ In the jargon of economists, exchange rates are not exogenous to trade balances. Rather, exchange rates are endogenous variables that result from a complex interaction of macroeconomic, financial and trade factors.

Besides these limiting factors, it is generally understood that currency misalignments can have short-run effects on the trade balance. A more controversial issue is whether these effects persist in the longer term or disappear as prices adjust. We turn to this question below.

II. Exchange Rates and the Trade Balance: the Long-run

Under perfect markets, economic theory suggests that changes in the level of the exchange rate have no long-run impact on the trade balance. The intuition for this result dates back to the essays of David Hume in the 18th century. In the long-term, money is like a veil on the real economy. As nominal prices adjust, relative prices go back to where they were before the policy shock created by the movement in the value of the currency. In this environment, real economic variables, including exports and imports, are ultimately not affected.

Essential in the above logic is the initial premise that markets are perfect. What is the trade effect of a currency misalignment in an economy characterized by market failures? Consider, as an example, an economy that has a potentially profitable export sector. And assume that the growth of exporters is limited by market imperfections such as information asymmetries (e.g. the quality of domestic products is unknown to foreign consumers). As a result of these failures, domestic firms face prohibitively high costs to enter foreign markets and the level of exports is inefficiently low. In this context, an undervalued currency may have a long-run impact on the balance of trade, as it allows exporters to overcome high entry costs in foreign markets. For instance, once they enter, foreign consumers can discover the quality of domestic products, eliminating the original problem of asymmetric information. Whatever the details of the mechanism at play, an exchange rate movement is expected to have a permanent effect on the trade balance when market failures are relevant.⁶

Empirical studies on the long-run impact of currency misalignments on trade do not provide definitive and unanimous evidence. However, some common patterns consistent with the theory have emerged. Freund and Pierola (2012) and Di Nino *et al.* (2011) find that the

⁶ This should not be taken as an indication that a competitive devaluation is an efficient export development strategy. First, an exchange rate devaluation is a second-best instrument to address market failures. Second, trading partners generally react to currency undervaluation by using diverse forms of contingent protection (e.g. Knetter and Prusa, 2003, and Bown and Crowley, 2012).

positive relationship between currency undervaluation and persistent export growth is strong for developing countries, where market failures of the type discussed above are likely to be pervasive. To the contrary, regressions including a broader sample of developing and developed countries tend to show that the trade effect of exchange rate misalignments is not statistically significant in the long-term (Haddad and Pancaro, 2010). This indicates that currencies misalignments are unlikely to have permanent effects on the trade balance of advanced economies.

III. Conclusions

This section reviewed the effect of a currency misalignment on the balance of trade. In the short run, when prices are either fixed or slow to adjust, exchange rate devaluations (revaluations) are predicted to improve (worsen) the trade balance. While the theory also provides a series of caveats to this basic notion, the evidence is for the most part supportive. The long-run trade impact of currency misalignments is more controversial. Under perfect markets, exchange rates are predicted to have no impact on the trade balance as prices adjust. But long-run effects emerge in models with market failures. The available evidence supports the view that a positive relationship between a currency undervaluation and an improvement in the trade balance exists only for developing countries, where market failures are more pervasive.

D. Multilateral trade rules related to exchange rates and balance of payments

We distinguish between two types of multilateral trade rules relating to exchange rates and the balance of payments. First, there are *de jure* trade rules that discipline WTO Members' exchange rate actions and allow them to take trade restrictive measures in the face of a worsening balance of payments. Second, there are other WTO provisions which allow Members to limit imports on grounds not explicitly linked to the exchange rate or the balance of payments but which in reality are used by governments in response to an unfavourable movement in those variables. We call the latter *de facto* rules.

I. De jure rules

De jure multilateral trade rules are GATT Articles XII, XV and XVIII and GATS articles XI, XII, and XVI.

GATT Article XII allows a Member to restrict the quantity or value of merchandise permitted to be imported in order to safeguard its balance of payments. There are conditions attached to the application of these trade restrictions: they should have the least disruptive effect on trade; there should be no more than one type of trade measure for this purpose; and whenever practicable, there should be a time schedule for the removal of the measures.

GATT Article XVIII allows a developing country Member to impose quantitative restrictions in order to safeguard its balance of payments but also requires the Member to eliminate those restrictions when conditions no longer justify the measure. There is only one dispute settlement case that has been litigated and resolved involving Article XVIII which is India—Quantitative Restrictions.⁷

In contrast, GATT Article XV is about WTO Members' exchange rate actions. The main obligation of GATT Article XV is contained in paragraph 4, to wit, "Contracting parties shall not, by exchange action, frustrate the intent of the provisions of this Agreement, ..." It has been recently argued that the expression "exchange action" is very broad and would include exchange-rate policy or exchange-rate management.⁸ Although there is some attempt at clarification with respect to what "frustrate" means, there has been as of yet no jurisprudence or decision of a competent WTO body regarding either the interpretation or application of paragraph 4 of GATT Article XV.⁹ One possible explanation for this non-use of Article XV is its legal "vagueness" making it difficult to invoke in dispute settlement (Hufbauer et al, 2006). The availability of *de facto* rules, which shall be discussed in greater detail below, may have also dampened the need to use the *de jure* rules.

⁷ The dispute concerns import restrictions that India claimed were maintained to protect its balance-of-payments situation. The quantitative restrictions covered 2,714 tariff lines within the eight-digit level of the Harmonized System. The WTO dispute settlement panel found that as India's monetary reserves were adequate, the measures were not necessary to forestall the threat of, or to stop, a serious decline in its monetary reserves

⁸ Miranda (2010) argues that "... the context of Article XV(4) makes it clear that the drafters intended the term "exchange action" in this provision to be very broad, so as to include a multiplicity of modalities of exchange-rate based-measures. Further, the structure of Article XV(2), taken as relevant context, combined with the preparatory work of Article XV lend further support to the proposition that the term "exchange action" in Article XV(4) includes exchange-rate policy or exchange-rate management."

⁹ However, there have been a number of disputes involving the justifiability of measures under other provisions of GATT Article XV. They include the Argentina—Textiles and Apparel case and the Dominican Republic — Import and Sale of Cigarettes case. The two cases are discussed in greater detail in Howse (2012).

The GATS deals with payments, transfers and capital movements in Articles XI (Payments and Transfers) and XII (Restrictions to Safeguard the Balance of Payments), and in footnote 8 to Article XVI (Market Access).

GATS obligations on payments and transfers in Article XI are based on a distinction between current transactions and capital transactions. Under Article XI, a WTO Member having undertaken specific commitments on financial services (or in any other services) is under the obligation not to impose "restrictions on international transfers and payments for current transactions relating to its specific commitments." The GATS does not define terms such as "payments and transfers for current transactions", "current transactions", "capital transactions", "movement of capital", or indeed "restrictions", although some of these terms have been defined in the IMF Articles of Agreement.

The obligation in paragraph 1 of Article XI to allow for unrestricted international payments and transfers for current transactions is qualified by the general proviso contained in paragraph 2 of the same Article to preserve the rights and obligations of Fund members under the Fund's Articles of Agreement, including the use of exchange actions which are in conformity with the Articles of Agreement.

The second part of Article XI:2 of the GATS deals with capital transactions. In this case, WTO Members are obliged not to impose restrictions on any capital transactions inconsistently with its specific commitments regarding those transactions, except under Article XII of the GATS (i.e. in the event of serious balance-of-payments and external financial difficulties or threat thereof) or at the request of the International Monetary Fund.

In addition, the extent of capital movements required by specific commitments is defined in footnote 8 to paragraph 1 of Article XVI of the GATS. First, if the Member undertook a commitment on the cross-border supply of a service (mode 1), "and if the cross-border movement of capital is an essential part of the service itself, that Member is thereby committed to allow such movement of capital." Secondly, if the WTO Member undertook a commitment on the supply of service through commercial presence, "it is thereby committed to allow related transfers of capital into its territory." It can be said therefore that Article XI:2

establishes the nature or the obligation with regard to capital transactions, and the footnote 8 delimits the extent of the obligation with regard to the capital movements involved. In any case, if a country makes a commitment to liberalize trade with respect to a particular financial service in the GATS, it is not, however, making an across-the-board commitment to freedom of capital movements.

GATS Article XII allows WTO Members to impose restrictions on trade in services covered by specific commitments (including on payments or transfers for transactions related to such commitments) "in the event of serious balance-of-payments and external financial difficulties or threat thereof", but also recognizes that "particular pressures on the balance of payments of a [WTO] Member in the process of economic development or economic transition may necessitate the use of restrictions to ensure, inter alia, the maintenance of a level of financial reserves adequate for the implementation of its programme of economic development or economic transition".

II. *De facto* rules

Beyond these rules, there is a range of measures — primarily antidumping, countervailing and safeguard measures— that the available economic literature suggests are used by governments in significant part to respond to business cycle movements and real exchange rate changes.

Knetter and Prusa (2003) found that real exchange rate appreciation in the currencies of the traditional users of anti-dumping — Australia, the EU, Canada and the US — against their trade partners usually led to more anti-dumping initiations. In particular, a one-standard deviation real appreciation of the domestic against the foreign currency increases anti-dumping filings against the foreign country by a third. A subsequent paper by Niels and Francois (2006) that examined Mexico's experience with anti-dumping protection between 1987 and 2000 found a similar pattern — that the number of anti-dumping complaints against a partner increases when the peso appreciates relative to the partner's currency. Finally, a recent paper by Bown and Crowley (2012) extends the analysis beyond anti-dumping to include safeguards and countervailing duties as well. They discover that for a set of industrial countries — the United States, European Union, South Korea, Australia and Canada —

episodes of real exchange rate appreciation against partner currencies during the 1998-2008 period led to substantial increases in these forms of contingent protection.

In contrast to the non-use of the *de jure* exchange rate and BOP-related rules, these *de facto* trade instruments are frequently invoked. Since the WTO was established in 1995, each year has seen an average of 236 anti-dumping initiations, 15 countervailing initiations and 13 safeguard initiations. These measures are also the subject of a large number of WTO disputes.¹⁰ Although not explicitly designed to deal with the trade repercussions of a real exchange rate appreciation, the evidence is strong that many countries employ these measures to respond to real exchange rate appreciations. Nevertheless, they are imperfect substitutes for a remedy that is directly targeted against exchange rate undervaluation. These trade-contingent measures require additional conditions to be met before they can be triggered, e.g. dumping behaviour or government subsidies. Furthermore, they are only useful if exchange rate undervaluation results in intensified import competition at home but are useless if the affected country is concerned about the erosion of its hold in export markets as a result of undervaluation by its competitor.

E. The role of multilateral trade co-operation in addressing imbalances

The policy changes to effect global rebalancing will require international co-operation. As stated earlier, imbalances may create systemic risks that individual countries do not fully take into account when they consider the benefits and costs of rebalancing. Furthermore, it will not be enough if only deficit or surplus countries adjust as the conditions that give rise to imbalances have roots in both. In this section, we will discuss the potential contribution of multilateral trade co-operation in redressing imbalances, focusing on the three traditional areas of WTO work: market access negotiations, rule-making and dispute settlement. We begin with the area of market access negotiations, focusing on the potential contribution of services sector opening, particularly in the financial sector, to the reduction of imbalances. Then, we turn to dispute settlement and the challenges involved in litigating disputes about exchange rates. Finally, we discuss rule-making and examine the arguments for negotiating

¹⁰ As of end of June 2012, the anti-dumping Agreement had been referred to in 93 requests for consultations and the Safeguards Agreement in 40 cases.

new rules on exchange rates or strengthening the existing Article XV to limit exchange rate manipulation.

I. Liberalization of trade in (financial) services

The level of financial sector development is an important determinant of saving rates and, through this channel, also a driver of global imbalances. There are multiple reasons why an underdeveloped financial sector could in fact lead to a high savings rate (Prasad, 2009). Firstly, in a fast-growing economy where the desired consumption bundle shifts towards durable goods such as cars and houses, the inability to borrow against future income streams could lead to households saving more in order to self-finance their purchases. Secondly, lack of diversification opportunities for financial assets, as well as lack of social insurance, could in fact lead households to save more for precautionary purposes. Finally, "financial repression"¹¹, which results in low or negative real interest rates, could lead to higher savings - the real interest rate elasticity of savings could be negative if the income effect dominates the substitution effect - something referred to in the literature as the "target savings hypothesis" (Chamon and Prasad, 2010).¹²

China is a case in point. Although quantitative measures of financial depth (e.g. bank credit to the private sector and banks' assets representing more than 100% and 240% of GDP, respectively) seem to indicate that for the most part China's financial system is on par or even ahead of its economic development, the financial system is unbalanced and incomplete (World Bank et al, 2012). The securities markets and the insurance sector are underdeveloped compared with the banking system. The banking system itself is unbalanced, with the large state-owned commercial banks (SOBs) holding over half of banking sector assets. There is

¹¹ "Financial repression" occurs when governments implement policies to channel to themselves funds that in a deregulated market environment would go elsewhere. Policies include directed lending to the government by captive domestic audiences (such as pension funds or domestic banks), explicit or implicit caps on interest rates, regulation of cross-border capital movements, and (generally) a tighter connection between government and banks, either explicitly through public ownership of some of the banks or through heavy "moral suasion." (Reinhart *et al.* 2011).

¹² The basic idea of the "target savings hypothesis" is that households have a target level of savings that they want to achieve by the end of their working life, which means that savings rates will tend to be negatively correlated with the real returns on savings. This is, of course, just a way of restating the relative importance of substitution and income effects of changes in interest rates on inter-temporal consumption decisions. The usual presumption is that the substitution effect dominates, so that a lower real rate of return on savings leads to a lower savings rate.

also imbalance in the capital markets, where stocks dominate and the corporate bond market remains underdeveloped (stock market capitalization represents 67 % of GDP, roughly seven times the size of corporate bonds outstanding).

The Chinese domestic imbalances (both in the financial sector and between industry and services) as well as the external imbalances are due a great deal to financial repression (Johansson, 2012).¹³ Financial repression in China has taken the form of interest rate controls, directed lending (including through State-owned banks), barriers to entry, state ownership in the banking sector, and capital account restrictions. In addition, social security underdevelopment has also been a significant determinant of the extraordinarily high savings rate in China.

If the negative effects of financial repression and underdevelopment are to be redressed, the Chinese financial system must undergo a series of reforms, including the elimination of market access barriers, opening up of the capital account (both to allow further access to foreign investors and further investment abroad by domestic companies and investors), interest rate deregulation, and even greater privatisation.¹⁴ Through their impact on savings and investment rates, and on domestic consumption, these policies may in turn help reduce China's large current account surplus. Specifically, a more developed social welfare system

¹³ Recent research suggests that there is a nonlinear relation between financial repression and growth. Governments can use financial repression to allocate limited financial resources, skew relative prices and provide capital to preferred sectors. Huang and Wang (2011) have shown that financial repression has helped economic growth in China, and have linked this positive relationship to a prudent and gradual approach to liberalisation. However, as highlighted by Johansson (2012), their findings also show that the impact of financial repression turned from positive during the first two decades of reform to negative in the 2000s. It is not so difficult to understand that at the early stages of development, infrastructure projects (e.g. roads, bridges, ports, airports, and power plants) have high returns, and the banking system, even if repressed, may easily focus on these, often urged on by political authorities who are rewarded for generating growth. But once infrastructure has been built up, further financing has to become more capable of discriminating between good and bad projects, and this is when the inadequacies of a highly repressed financial sector become more apparent, and why a repressed financial sector may not contribute to economic growth. A similar point is made by Rajan (2006).

¹⁴ The current context is however particularly challenging for implementing some of these reforms. As explained by the Bank for International Settlements (2012), the extraordinarily accommodative monetary policies conducted in major advanced economies (e.g. the Euro-zone, Japan, the UK and the US) "are being transmitted to emerging economies in the form of undesirable exchange rate and capital flow volatility." While the WTO can help in supporting domestic financial reforms in a country like China, the growing relevance of monetary policy spillovers suggests that central banks, both in surplus and deficit countries, need to take better account of the global implications of their actions. This reinforces, in our view, our plea for a first-best solution based on global coordination of macroeconomic policies to redress the adverse effects of large and persistent global imbalances (see sections E.II and E.III).

(which would reduce the need for precautionary saving among households) as well as financial sector reform with a view to deepening the sector and improving its allocation function would contribute to a fall in the savings rate and an increase in investment (OECD, 2011).

China has already embarked in a series of significant reforms, doing away with decades of financial repressive policies. For example, it has allowed foreign investors to hold up to 100% ownership of non-bank financial institutions (e.g. personal consumption finance companies), and 49% ownership of securities joint-ventures (including joint ventures trading commodity and financial futures). China also agreed to shorten the waiting period ("seasoning period") for securities joint ventures to expand its business scope into brokerage, fund management, and other trading activities. Subsidiaries of foreign banks are now allowed to underwrite corporate bonds in the inter-bank bond market; and foreign and domestic auto financing companies, currently dependent on China's state-owned banks for funding, have been authorized to issue bonds regularly, including securitized bonds. In addition, China has recently increased the total dollar amount that foreigners can invest in China's stock and bond markets under its Qualified Foreign Institutional Investor (QFII) Program from US\$30 billion to US\$80 billion.¹⁵ All these measures will reduce restrictions on the free flow of capital, and contribute to capital market development. However, in spite of these reforms, financial repression still remains in the form of state-ownership of banks, foreign ownership restrictions in various financial services, limitations on business scope, and, most importantly, interest rate controls. Indeed, lending and deposit-taking by banks have been deregulated since 2004, they are still subject to benchmarks set by the PBOC. Commercial banks may charge lending rates above the benchmark (but not lower than 90% of the benchmark), and offer deposit rates below – but not above – the benchmark. Market-based interest rates are allowed in the short-term interbank money markets and bond markets.¹⁶ Further deregulation of interest rates would allow Chinese households to earn a higher return on their savings, supporting greater household consumption, and would make exchange rate intervention and the build-up of foreign reserves more costly.

The WTO can provide a suitable forum for negotiating and implementing many of these reforms, in particular those dealing with the elimination of market access barriers (e.g.

¹⁵ For an exhaustive description of recent regulatory developments in the Chinese financial sector see WTO document WT/TPR/S/264 (Trade Policy Review - China - Report by the Secretariat), 8 May 2012; and WTO document WT/TPR/OV/W/6 (Report to the TPRB from the Director-General on Trade-related Developments), 28 June 2012.

¹⁶ See WT/TPR/S/264.

foreign ownership restrictions, limitations on business scope) and the creation of a level playing field between Chinese and foreign financial service suppliers. Apart from the credibility *cum* predictability gains that may ensue from improved GATS/WTO commitments, negotiations can provide for the staging of commitments over time, ensuring an appropriate sequencing of reforms. Sequencing of policies will be crucial for the success of financial sector reforms in China.¹⁷

Together with China, Germany and the oil exporting countries make up the bulk of global current account surpluses. The underlying drivers of these other countries' surpluses are different from China's. Except for the period of re-unification in the 1990s, Germany has been running current account surpluses for decades. However, the current account of the euro block, on average, has been balanced. Moreover, a striking feature of the Eurozone's experience over its first ten years is that some countries have systematically exhibited current account surpluses while others have undergone continuous deficits (Mongelli and Wyplosz 2009). As long as the Euro-zone's current account is closed to balance, Germany's current-account surplus is basically a European – not global – issue (Aizenman and Sengupta, 2011).

Factors behind Germany's external surpluses do not primarily reflect market failures or policy-induced distortions (IMF, 2011). Much of Germany's high level of savings is a rational response to the aging of its population (Aizenman and Sengupta 2011, IMF 2011, Wyplosz 2010). Similarly, Germany's strong export performance is a reflection of just how globally competitive its companies are. As said above, generally speaking, large current account balances (either positive or negative) are only undesirable insofar as they reflect distortions in the economy. That said, in mature economies such as Germany's, a current account surplus may arise from investing too little, rather than saving too much. Over the period 1995-2009, Germany had the lowest net investment share in net domestic product

¹⁷ Johansson (2012) argues in that regard that although capital account liberalisation is important, a complete opening up of the capital account should come only after other financial reforms. Interest rate restrictions play an important role in fuelling the banking system with cheap capital, so a sudden and comprehensive liberalisation of the capital account could generate a massive outflow of capital. Before a complete reform of the capital account can take place three preliminary reforms need to be implemented. These are interest rate liberalisation, exchange rate flexibility, and strengthening of supervision and regulatory practice in the banking system. There is also a need for sufficiently developed domestic capital markets, because they provide incentives for further commercialisation of domestic banks, enable absorption of large capital inflows and reduce the risk of currency mismatches.

among all OECD countries (Sinn *et al.* 2011). The decline in domestic investment by the corporate sector in the first half of the 2000s seems to have contributed significantly to the increase in the current account surplus (OECD, 2010). This decline in domestic business investment was reflected in net capital outflows, which took the form of foreign direct investment in Eastern Europe and foreign net lending by banks.

The reasons for investment being relatively low in Germany are not entirely clear. Several explanations have been suggested, including the uncertainty about the durability of the upswing in external demand; low productivity growth, particularly in the non-tradable sector; and gaps and distorted incentives in the financial sector. In the case of the financial sector, a relatively underdeveloped framework for venture capital and private equity, as well as an inefficient insolvency process, may be explaining the low investment in high-risk, high-growth sectors. At the same time, large Landesbanken (regional State-owned banks) have been more inclined to invest overseas than domestically. Germany's labour and total factor productivity growth has been lower than the OECD average for the last decade at least, dragged down by a poor performance of services. In business services, for example, productivity grew by 0.9% a year in Germany in the period 2000-08, against 1.7% in the OECD (OECD 2012). It has been argued that one factor that is holding back productivity is burdensome regulation in some services sectors, in particular professional services (OECD 2010). Germany ranks 22 out of 27 OECD countries in terms of strictness and this is mostly due to domestic regulations, such as restrictions on advertising and fees, compulsory chamber membership, and licence and permit systems more burdensome than in other countries (OECD 2010).

To some extent, these factors affecting Germany's current account surplus are mutually reinforcing (IMF 2011). Weak productivity growth, particularly in the services sector, lowers incentives to invest, holding back potential output and income, and thus consumption. In turn, lower domestic demand reduces the incentive to invest, notably in the services sector, thus dampening demand for labour and keeping wages and consumption depressed. A broad reform agenda, for services and for the financial sector in particular, could unleash Germany's domestic growth potential. A larger, more productive services sector would increase the relative importance of the domestic economy. New businesses in the services

sector are also likely to trigger higher investment, at least initially, and the creation of new jobs would support consumption. Both higher consumption and investment would tend to increase imports, potentially reducing the current account surplus while strengthening growth. Since the domestic regulations identified as hampering productivity growth in Germany are not amenable to market access negotiations in the GATS, the role of multilateral co-operation in this case seems to be, *prima facie*, relatively limited. That said, future disciplines on Domestic Regulation under the GATS, with their emphasis on transparency, objectivity and impartiality, simplification of procedures, and recognition of qualifications' equivalence, might create over time a dynamic conducive to less trade-restrictive regulation of services, and thus support and consolidate individual countries' efforts in that regard.¹⁸

Oil exporting countries are nowadays the main counterpart to the US current account deficit.¹⁹ Still, these large surpluses may be considered as structural, reflecting oil price developments. Normally, a large current-account surplus would be eroded over time by stronger domestic spending and a higher exchange rate. But these countries' currencies are pegged, or closely linked, to the dollar. While a more flexible exchange rate might assist global rebalancing, floating exchange rates might also lead to excessive volatility and discourage diversification of these economies (by making other sectors uncompetitive as the currency appreciates). At this juncture, the most effective policy tool to reduce oil exporters' current-account surpluses seems to be public spending and investment, in particular because of its high import content (The Economist 2012). Increased public spending on infrastructure as well as on services such as education, health care, and housing, as well as the elimination of remaining market access barriers in various services sectors, could also help these economies diversify away from oil. And there may be here a role to play for the WTO as well. Take the example of Saudi Arabia, the major oil-exporting country, and one running a very significant current account surplus on its own. Saudi Arabia made extensive commitments, not least on services, when acceding to the WTO. While access to the Saudi

¹⁸ For a discussion on the development of disciplines on Domestic Regulation under the GATS, see WTO (2012), in particular pp. 184-186.

¹⁹ This year the IMF expects oil exporting countries to run a collective record surplus of US\$740 billion, three-fifths of which will come from the Middle East. That will dwarf China's expected surplus of US\$180 billion. Since 2000 the cumulative surpluses of oil exporters have come to over US\$4 trillion, twice as much as that of China. See The Economist (2012).

services market should be enhanced, and remaining barriers eliminated, ideally through multilateral services negotiations, there is an additional WTO area of work that may contribute to improving Saudi Arabia's domestic investment and consumption: the negotiations on government procurement. Opening its domestic procurement market, combined with increased public spending, could increase imports (while ensuring at the same time an efficient allocation of public sector's resources), thus helping reduce the current account surplus.

We turn now to the "deficit country" *par excellence*, namely the US. The dominant factor behind the US current account deficits over the last decade have been the decline in domestic saving, both by households (who borrowed against increasing house prices and rising asset prices more generally) and the public sector, which led to significant fiscal deficits (Blanchard and Milesi-Ferretti, 2009). Any reduction of the US current account deficit should imply therefore an increase in savings rates by households and reductions of the fiscal deficit through fiscal policy. In that context, there seems to be little the WTO can contribute too. However, this first reading may be misleading.

A closer look at the US figures shows that the bulk of the US current account deficit is accounted for by merchandise trade deficit. In the case of services trade however, the US has been constantly running a very significant surplus, while China, Germany and Saudi Arabia in particular have been running trade deficits (see Table 2). In other words, when we look at trade in services, the imbalances are reversed. This is a reflection of the overwhelming comparative advantage that the US has in services. It becomes clear then that the WTO services negotiations could contribute to a reduction of global imbalances by improving US exporters access to foreign markets. In addition, services trade liberalization, supported by WTO negotiations, would enhance competition and efficiency, and raise productivity in all economies, including surplus countries.

II. Litigation in the WTO

A number of scholars have proposed to bring exchange rate controversies within the scope of the WTO (Bergsten, 2007; Goldstein, 2010; Hufbauer et al., 2006; Mattoo and Subramanian, 2009). The essential argument is that, since exchange rate misalignments may have trade

effects that are comparable to other border measures such as import tariffs and export subsidies, WTO Members should be allowed to litigate exchange rate practices in the context of the WTO dispute resolution system. These proposals have created a large academic and policy debate, a significant part of which is collected in Evenett (2010). While a full review of this literature is beyond the scope of the present article, we only attempt to place this issue in the broader context of the debate on trade imbalances and multilateral trade rules.

When thinking of the possibility of litigating exchange rate policy in the WTO, there are essentially two separate (even if overlapping) issues to consider. A first question concerns the practical implementation of WTO adjudication in this area; the second relates to the efficient design of rules to address the trade effects of exchange rate policy. Let us briefly look at these two issues.

Can exchange rate practices be efficiently adjudicated in the WTO system? There are several concerns that have emerged in the literature. Most of these concerns focus on the legal difficulties of bringing an exchange rate case to the WTO under current rules. Can Article XV of the GATT form the basis of such a dispute? Or should WTO rules on subsidies be invoked? Here we abstract from these considerations altogether and limit ourselves to what appear to us as the two most pressing concerns from an economic perspective. First, currency manipulation is difficult to identify. An important reason is that there are several causes, beyond direct policy actions, that can lead to a currency misalignment. Essentially, this is because exchange rates are endogenous variables that result from the complex interaction of macroeconomic, structural, financial, and trade determinants. A second concern is that trade effects of exchange rates may be difficult to establish (Staiger and Sykes, 2010). For example, even in the short-run when prices are slow to adjust and currency misalignments have an impact on trade, the equivalence between exchange rate policy and trade policy instruments such as import tariffs and export subsidies hinges crucially on the invoicing decisions of firms. These observations imply that the application of current WTO rules to exchange rate policy is, at best, a highly complex matter in practice. Needless to say, different authors disagree on the extent to which these practical problems can be overcome.

The second element of the debate on the role of the WTO dispute resolution in exchange rate matters concerns the design of multilateral trade rules and the broader issue of the place of the trading system in global economic governance. The rules of the WTO are clearly not written in stone and can and should be adjusted as underlying economic problems evolve. But the current debate seems to miss an important point on the nature of exchange rates. As we argued above, currency misalignments are caused by a multiplicity of factors. For example, while both high foreign reserve accumulation and aggregate savings may lead to currency undervaluation, there is an essential difference between the two causes of the misalignment. The first is a policy action under the direct control of the monetary authority, while excess savings are influenced by structural conditions (such as the lack of an adequate social insurance mechanism) that a policy maker can only change in the medium term. More importantly, correcting these macroeconomic and structural distortions uniquely through the multilateral trade system does not seem efficient from a global governance perspective. As the cause of such distortions is not trade itself, but rather trade is the channel through which distortions spill-over into other countries, a simple first-best argument would suggest that it is international co-operation in macroeconomic and structural policies that needs to be reinforced. In brief, any talk of reform of WTO rules in this domain cannot be dissociated from the nature of exchange rates and the role that the trading system should play in the broader global governance framework.

III. WTO Rulemaking

The many proposals we have referred to see WTO rules, whether it is GATT Article XV, the SCM agreement, or a new exchange rule to be negotiated by WTO Members, in very narrow terms as instruments to deliver sanctions. This is not to argue that the use of trade sanctions cannot be part of the broader international solution to global imbalances. But the nature of these proposals is a symptom of a "coherence gap" in global governance that has prompted some to conceive WTO rules as devices to make up for the weakness in international co-operation in macroeconomic, exchange rate and structural policies. The IMF has rules on exchange rates and exchange rate manipulation (Article IV) but these rules have seldom been effectively used (Mussa, 2007). The G-20 has established a working group to deal with the issues of economic growth and global imbalances, the Framework Working Group for Strong, Sustainable and Balanced Growth. While the group has made substantial progress in

identifying and monitoring the broad set of policies that are the root causes of imbalances, the idea of introducing simple and enforceable rules is resisted by several members.

As stated above, the first-best solution is international co-operation in macroeconomic, exchange rate and structural policies to deal with the roots of imbalances. With that in place, a general argument can be made for sanctions to deter countries from either free-riding or defecting from the cooperative outcome. Such arguments have been made to address other problem areas most notably in the case of international environmental externalities (Barrett, 1997; Botteon and Carraro, 1998). If there is international agreement that sanctions are to form part of the solution to imbalances, they should apply to both surplus and deficit countries. Furthermore given the manifold roots of the imbalances, policies beyond exchange rates, such as those contributing to fiscal deficits, will need to be subjected to the same or even greater degree of international scrutiny. Otherwise, there will be serious gaps in how the global community deals with rebalancing. Sanctions that target only exchange rates would mean that imbalances in currency unions would not be dealt with as part of a broader solution. Also, a trade sanction that targets only surplus countries and focuses on the exchange rate would be politically problematic. There is a danger that the initiative be seen as targeting specific countries, e.g. China, who would therefore have no incentive to support the idea. Finally, the set of penalties would need to go further than trade sanctions. The idea of a Tobin tax on cross-border capital flows to reduce the incentive for surplus countries to continue accumulating savings and to make importing capital less attractive for deficit countries has been resurrected by some commentators (Dieter and Higgott, 2010). Krueger (2010) has suggested (i) taxes on the new debt or on all new financial instruments issued by deficit countries who fail to take steps to rebalance or (ii) financial penalties along the lines of those envisaged in the European Union for surplus and deficit countries.

With this understanding, it will be possible to support efforts to negotiate a new rule on exchange rates as suggested by Mattoo and Subramanian, or to amend existing rules such as GATT Article XV or even the SCM agreement, so that they can be effectively used by Members. As noted above, there are a number of still formidable questions that will need to be resolved — determining whether an exchange rate is undervalued and whether

undervaluation is due to government action — but they do not appear to be insurmountable hurdles.

F. Conclusions

The risks presented by large and persistent trade and current account imbalances justify concerted international action towards rebalancing. Multilateral trade co-operation can contribute to this process in two important ways. First, market opening efforts in services, including in the area of financial services, can reduce policy-related distortions and market imperfections in surplus countries that lead to the build-up of unsustainable imbalances. Services liberalization can also contribute to economic diversification in oil-exporting economies, to a more domestic-demand driven growth model in other surplus countries, such as China and Germany, and to the expansion of external sources of demand in the US.

Second, we have argued that the first-best solution to the correction of large and persistent global imbalances is international co-operation in macroeconomic, exchange rate and structural policies with a view to dealing with the roots of imbalances. In that context, if such a framework could be put in place, there is a general efficiency argument that could be made for the use of sanctions to enforce cooperative behaviour towards rebalancing. However, this requires that both surplus and deficit countries be subject to sanctions, that all important roots of the imbalances be subject to international scrutiny, and that sanctions beyond trade be included as well. WTO-triggered trade actions could form part of a broader solution to prevent the build-up of unsustainable imbalances in the future. But this requires addressing a "coherence gap" in global governance because trade rules alone would not provide an efficient instrument to compensate for the weaknesses in international co-operation in macroeconomic, exchange rate and structural policies.

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Table 1: Current Account Balance, Selected Countries: 2000-11

Item	2000		2007		2011	
	Billions of USD	% of GDP	Billions of USD	% of GDP	Billions of USD	% of GDP
Surplus countries						
<i>Oil exporters</i>						
Saudi Arabia	14.3	7.6	93.4	24.3	158.5	26.5
Russia	46.8	18.0	77.0	5.9	98.8	5.3
Norway	25.3	15.0	49.0	12.5	70.3	14.5
<i>East Asian exporters</i>						
China	20.5	1.7	353.9	10.1	201.7	2.8
Japan	119.6	2.5	212.1	4.9	119.3	2.0
<i>euro area ("core")</i>						
Germany	-32.8	-1.7	248.0	7.5	203.9	5.7
Netherlands	7.9	2.0	52.7	6.7	70.9	8.5
Deficit countries						
USA	-416.3	-4.2	-710.3	-5.1	-465.9	-3.1
<i>euro area ("periphery")</i>						
Spain	-23.1	-4.0	-144.3	-10.0	-52.2	-3.5
Greece	-9.9	-7.8	-44.7	-14.6	-29.4	-9.8

Source: World Economic Outlook Database (October 2012).

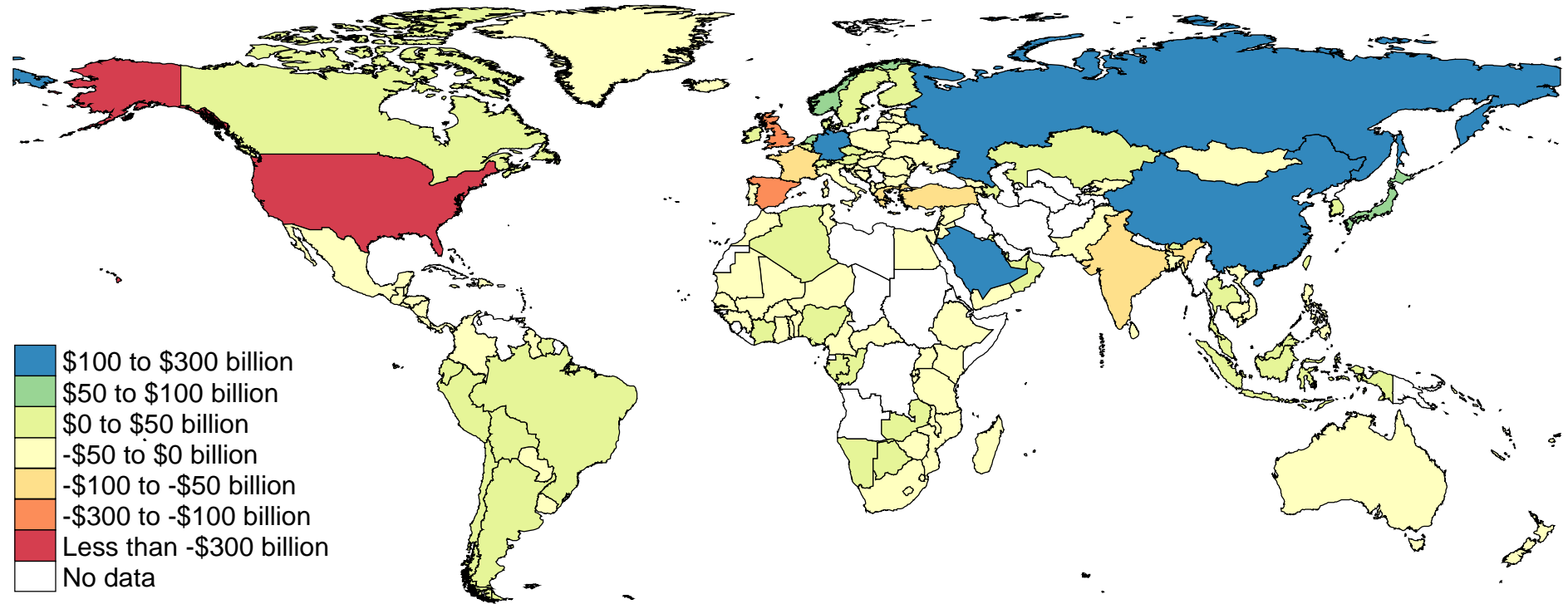
Table 2: Services Trade Balance, Selected Countries: 2007-11

Item	2007		2011	
	Billions of USD	% of GDP	Billions of USD	% of GDP
Surplus countries				
United States	135.7	1.0	185.6	1.2
United Kingdom	89.8	3.2	103.3	4.2
euro area ("periphery")				
Greece	23.1	7.6	19.3	6.4
Spain	31.1	2.2	47.1	3.2
Financial centres				
Hong Kong, China	42.2	20.4	65.7	27.0
Switzerland	32.7	7.3	47.4	7.2
Deficit countries				
euro area ("core")				
Germany	-41.2	-1.2	-35.7	-1.0
Oil exporters				
Saudi Arabia	-30.2	-7.8	-43.8	-7.3
Russia	-17.8	-1.4	-34.5	-1.9
East Asia				
China	-7.6	-0.2	-54.1	-0.7
Japan	-21.6	-0.5	-23.3	-0.4

Source: WTO Secretariat and World Economic Outlook Database (October 2012).

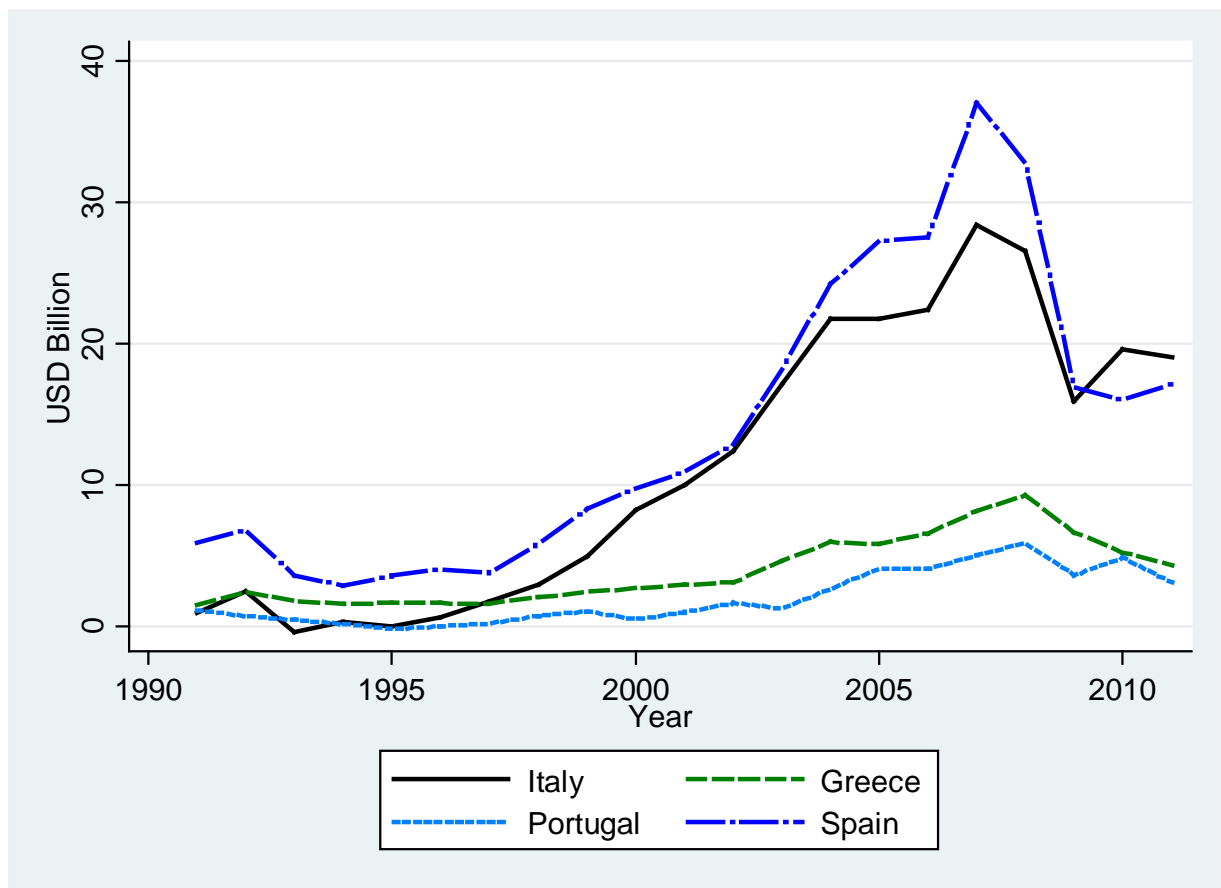
Note: Based on balance of payments data.

Figure 1: Global Merchandise Trade Balances, 2007



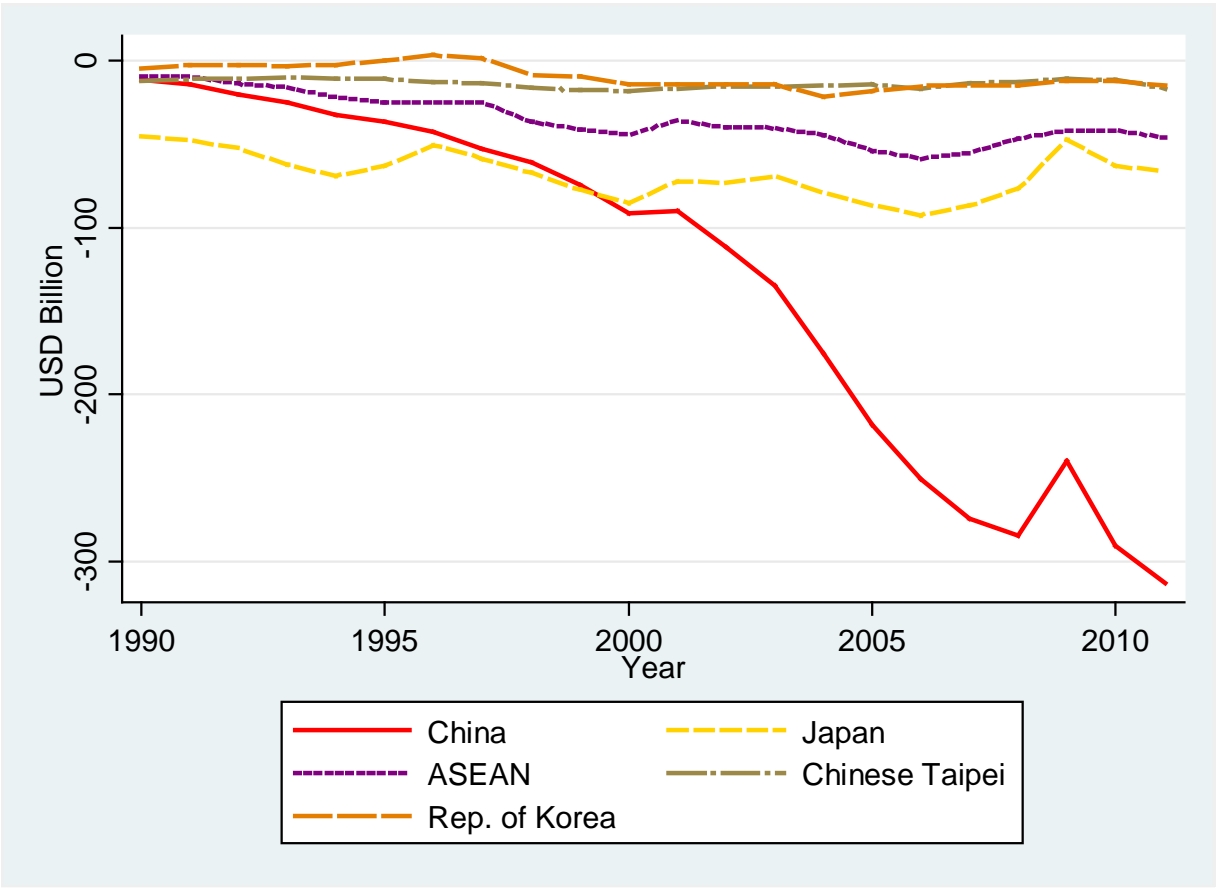
Source: UN Comtrade.

Figure 2: German Merchandise Trade Surplus with Selected Euro-area Partners



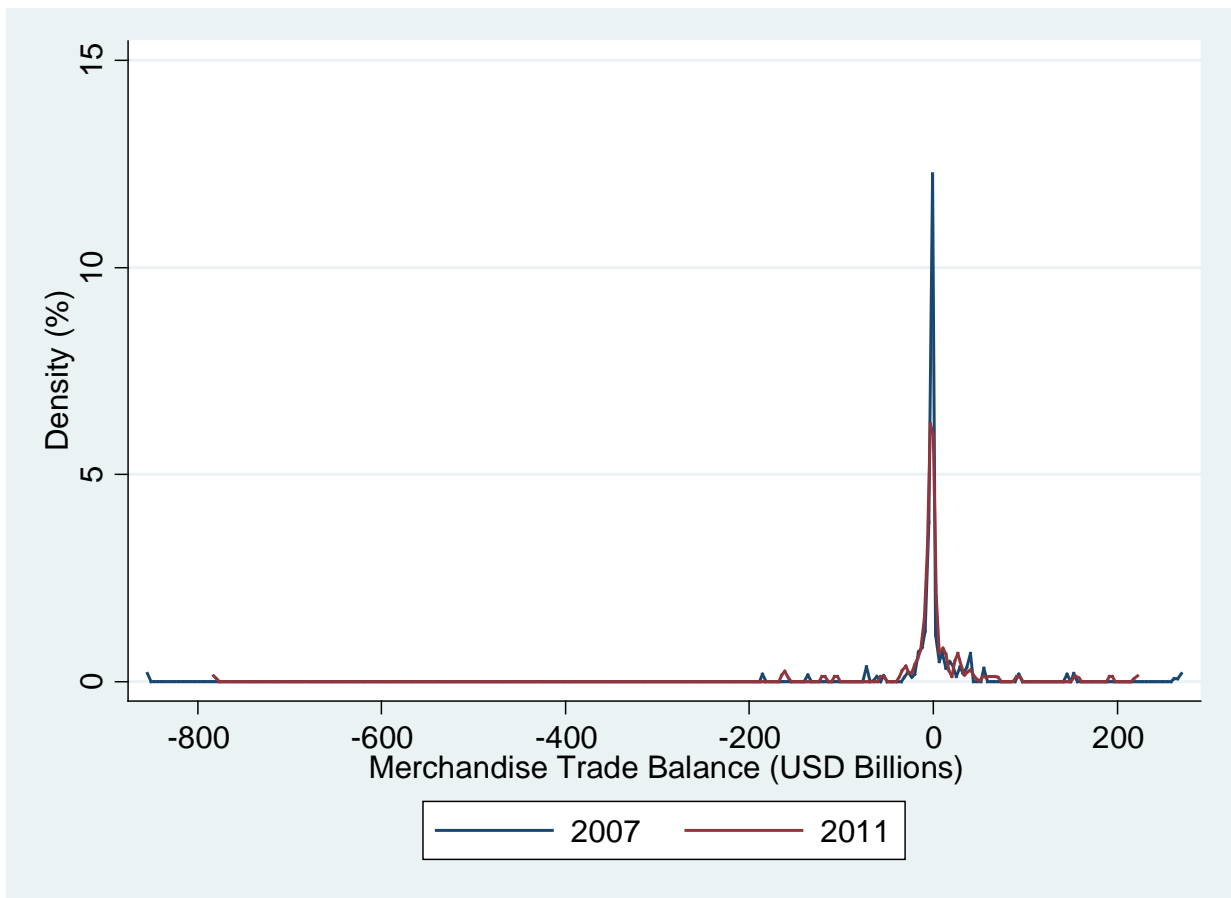
Source: UN Comtrade.

Figure 3: US Merchandise Trade Deficit with Selected East Asian Countries, 1990-2011



Source: UN Comtrade.

Figure 4: Kernel Density of Merchandise Trade Balance, 2007 and 2011



Source: UN Comtrade.