THE DISTORTION OF CURRENCIES MISALIGNMENTS ON TRADE INSTRUMENTS: or why currencies wars are not over

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ABSTRACT

The negotiations of mega agreements between the US and the Pacific countries (TPP) and between the US and the EU (TTIP) are raising the attention of experts on international trade law and economics. TPP and TTIP are proclaimed to be the designers of the rules for the XXI Century. Old trade instruments such as tariffs are said to be no more important for TTIP because tariffs are negligible among those partners but significant to for TPP. Another relevant agreement in negotiation is between the EU and Mercosul, where tariffs are the most important issue in discussion. The main purpose of this paper is to shows that tariff are important for all these agreements, not because of its nominal value, but because the impacts of exchange rate misalignments on tariffs are so significant that all concessions can be distorted by overvalued and by devaluated currencies. The article is divided into several sections: the first gives an introduction to the issue; the second explains the methodologies used to determine exchange rate misalignments and also presents some results for Brazil, US and China; the third summarizes the methodology applied to calculate the impacts of exchange rate misalignments on the level of tariff protection through an exercise of “misalignment tariffication” and examines the effects of exchange rate variations on tariffs and their consequences for the multilateral trading system; the fourth creates a methodology to estimate exchange rates against a basket of currencies (a virtual currency of the World) and a proposal to deal with persistent and significant misalignments related to trade rules. The fifth presents some estimates for the main PTAs. The conclusions are present in the last section.

I – Introduction – a historical overview

When the IMF and the GATT were created, during the 40’s, the exchange rate system was the gold-dollar standard. The GATT was designed to create rules towards the liberalization of trade while the IMF was established to supervise exchange rate policies and safeguard the balances of payment of its parts.

In this context, the IMF and the GATT created a direct dialogue linking exchange rate and trade through IMF Article IV and GATT Article XV.

IMF Article IV, iii) stated that “In particular, each member shall:

“avoid manipulating exchange rates … in order to prevent effective balance of payments adjustment or to gain an unfair competitive advantage over other members”;

GATT Article XV, 4 established that:

“contracting parties shall not, by exchange actions, frustrate the intent of the provisions of this Agreement, nor by trade action, the intent of the provisions of the Articles of Agreement of the IMF”.

With the end of the dollar-gold standard in the 70’s, the IMF and the GATT tried to adapt their roles to a new world economic order. IMF focused into managing the stability of the international financial system, now including several exchange rate arrangement options: from pegged rates to completely floating ones.

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2 This paper is part of a broader research initiated in 2010 on the effects of misalignments on trade rules, whose first results were published in Thorstensen, V.; Marçal, E.; and Ferraz, L., “Impacts of Exchange Rates on International Trade Policy Instruments: The Case of Tariffs”, Journal of World Trade, v. 46, i. 3, 2012.
GATT on the other hand was not able to negotiate new rules for trade that took into consideration this new reality. The only change, adopted by the Working Group on Exchange Rate, in 1980, was the Guidelines on Article II.6 of the GATT (L/4938) updating an existing process that allowed countries facing an exchange rate undervaluation of at least 20% to renegotiate their specific tariffs. This mechanism was invoked only 11 times and was forgotten in the archives of the WTO.

During the decades of the 80’s and the 90’s the majority of countries adopted exchange rate arrangements pegged to some of the main currencies. In periods of crisis, negotiations among some of the main economic powers were enough to bring the whole monetary system back to its equilibrium. The examples are the Louvre and the Plaza Agreements.

In the first decade of the 2000’s, the international system witnessed an increasing liberalization of capital and a significant increase in trade flows. Exchange rate misalignments were quite frequent, as the examples of China and many of the ASEAN countries show. The impacts of the financial crisis of 2008 in the US and its spillover on other countries led governments to rely frequently on loosened monetary and exchange rate practices that deeply affects the main instruments of the international trading system.

However, neither the IMF has ever agreed to use its Article IV power to declare a country as a currency manipulator, nor have WTO members brought a member to the DSB – Dispute Settlement Body – to challenge it as a frustrator of other members’ benefits under the trade system.

What is important to stress is that with the globalization of production and the increase of trade, the existence of currency misalignments starts to play a bigger role on trade and, as a consequence, misalignments are seriously undermining the rules of the international trading system, such as tariffs, antidumping, safeguards and rules of origin. Even so, there has been no reaction at the WTO level. The assumption that the WTO is responsible only for trade issues and the IMF the guardian of exchange rate matters, as if there was no link between the two, is a denial to the evidence that exchange rates are deeply intertwined with trade.

Brazil presented a submission to the Working Group on Trade, Debt and Finance (WGTDF) in April 2011, suggesting a work program starting by an academic research on the relationship between exchange rates and international trade (WT/WGTDF/W/53). In September 20th, 2011, Brazil presented its second proposal, suggesting the examination of available tools and trade remedies that might allow countries to redress the effects of exchange rate misalignments (WT/WGTDF/W/56).

The WTO Secretariat presented its Note on a Review of Economic Literature in September 27th, 2011 (WT/WGTDF/W/57), as mandated by the Working Group. It was an extensive research, but it only presented analysis that followed the rationale of the IMF. It does not speak “WTO language”. It did not touch the issue of the impacts of exchange rate misalignment on WTO principles, rules and its instruments, such as tariffs, antidumping and rules of origin. Brazil’s third submission, of November 2012 (WT/WGTDF/W/68), brought up the discussion of the effects of exchange rate
misalignments on such instruments as well as the possibility of exploring existing WTO rules to address such effects.

With the impasse of the Doha Round, even after the progress of the Bali Ministerial in December 2013, and the multiplication of preferential trade arrangements with the negotiation of mega free trade arrangements as TTIP and TPP, it cannot be accepted that exchange rate misalignments is a matter exclusive to the IMF. There is no trade rules system that is immune to exchange rate misalignments. Attempts to introduce currency into the TPP clearly show that the issue can affect trade interests. WTO cannot any longer be silent is this matter. A WTO system without a link between trade and currency, more specifically, without a mechanism to neutralize the effects of currency on trade instruments, is one deeply flawed, because currency can distort and nullify all WTO rules. The same can be said about PTAs. Persistent exchange rate misalignment can destroy all tariff preferences, creating tariffs where it is said to have no barrier. A WTO without the neutralization of currency misalignments is an Organization with rules without efficacy, a juridical fiction, an Organization disconnected from economic reality. PTAs without currency safeguards are illusionary arrangements with preferences that do not exist. Time has come to bring the multilateral trading system (WTO and PTAs) to face the challenges of the modern World.

The main purpose of this paper is to analyze the impacts of exchange rate misalignments on tariffs – one of the most traditional trade policy instruments in WTO and the most basic issue to be eliminated in all trade agreements.

It concludes with a proposal to calculate exchange rate misalignments against a World basket, a methodology that can be applied by the WTO and all PTAs.

II – Methodologies and estimates on exchange rate misalignments

The purpose of this section is to present the methodology developed by FGV to estimate exchange rate misalignments that later will be used to assess the impacts of exchange rate misalignments on tariffs and other trade policy instruments.

There are several models for calculating equilibrium exchange rates in the literature: purchasing power parity; the equilibrium of the current account; the equilibrium of the net foreign assets of a country; or the exchange rate based on the unit of labor costs.

1 - Estimates from the IMF

IMF has been estimating exchange rate misalignment for many years and the Consultative Group on Exchange Rates (CGER) has developed a methodology based on the equilibrium of the current account. It presents its results in the Reports under IMF Article IV Surveillance Mechanism. After the reform of this Mechanism in 2011, the methodology was developed and expanded by the External Sector Area and it now analyzes exchange rate misalignments for each specific country examining not only current account but also reserves, capital flows and external balance, and examining the impacts of these misalignments to the multilateral system. These results were published in the Pilot External Sector Report (6/2012, 8/2013, 7/2014) that presents IMF estimates.
of exchange rate misalignments by bands. The values for 2014 are presented in Graphic 1.

**Graphic 1 – Differences of Real Effective Exchange Rates and those consistent with Fundamentals (%) July 2014**

Source: IMF Pilot External Sector Report (June 2014)

Other countries estimates from IMF can be found in the Secretariat Reports for each country named “Article IV Report”.

**2 - Estimates from the Petersen Institute**

The Peterson Institute of International Economics also estimates exchange rate misalignments for many countries using another methodology also based on current accounts as presented in Graphic 2.
Estimates from the Observatory on Exchange Rates from FGV- São Paulo

The FGV - Observatory on Exchange Rate at the São Paulo School of Economics of Getulio Vargas Foundation has been calculating Brazil’s exchange rate misalignments since 2009. It has developed a methodology to estimate real equilibrium exchange rates based on the stability of the net foreign asset position of a country, by using an econometric model of co-integration. More details can be found in another paper of the authors in Thorstensen, Marçal, and Ferraz (2012).

Estimates of exchange rate misalignment are based on the analysis of long-term fundamentals of the real exchange rate using a Vector Autoregressive Model with Error Connection Term as econometric model. It has used as fundamentals the net foreign investment position, terms of trade and an indicator of difference in productivity in the sectors of tradable and non-tradable goods. There is theoretical justification for such choice, and the relationship between real exchange rate and these variables is empirically validated as shown by Faruqee, H. (1995), Alberola, E., S. Cervero, H. Lopez and A. Ubid (1999) and Kubota, M. (2009).

Results

The FGV Observatory on Exchange Rate has been estimating G 20 exchange rate misalignments. The estimations for Brazil, the US and China’s real equilibrium exchange rate, using co-integration techniques are here presented. The results are as follows:
Graphic 3 – Brazil Real Exchange Rate, Fundamentals and Exchange Rate Misalignments (2013)

Source: Observatory on Exchange Rate (2013)

Graphic 4 – United States Real Exchange Rate, Fundamentals and Exchange Rate Misalignments (1970-2013)

Source: Observatory on Exchange Rate (2013)

Graphic 5 – China Real Exchange Rate, Fundamentals and Exchange Rate Misalignments

Source: Observatory on Exchange rate (2013)
The results for several countries, for 2011, 2012 and 2013 are presented in the following Graphic.

**Graphic 6 – Estimated Exchanged Rate Misalignments for selected countries**

There is an important literature presenting different methodologies and sophisticated econometric models to estimate countries’ exchange rate misalignments.

When comparing the results, some conclusions can be reached: i) each methodology is focused in a different economic aggregate and so produced to emphasize different aspects; ii) for many countries the results point consistently to the overvaluation or undervaluation of these countries’ exchange rates in significant values and for extended periods of times. The relevant point here is to discuss which methodology produces the more robust results for the purpose of examining their effects on trade rules (Trade Agreements of WTO) or on financial rules (IMF). Due to the present situation of widespread misalignments, this debate is becoming inevitable and urgent.

**III – WTO and the effects of exchange rate misalignments on tariffs**

The next question to be raised is how such misalignments affect the international trading system built by the GATT and WTO over the last 70 years, and all preferential trade arrangements.

Tariffs are GATT’s historical instrument for trade protection and one of the main negotiating subjects included in multilateral rounds. Its purpose is to allow an objective and transparent protection for goods, and to be reduced over time, as a result of trade liberalization.
An important picture of each WTO member tariff protection can be given by a graphic showing tariff averages for each chapter of the Harmonized Commodity Description and Coding System – HS (97 chapters), which includes: foodstuff, mineral, textiles, machines, electronics, vehicles and aircrafts, among others.

The concepts of tariff and tariffication of non *ad valorem* barriers is a basic instrument for trade negotiation in the WTO. A common approach is to estimate the *ad valorem* equivalent rates of several duties expressed on a monetary basis, such as specific rate duties and variable levies. The instruments of trade defense as anti-dumping, countervailing measures and safeguards can also be considered as equivalent to tariffs. According to this logic, exchange rate misalignments can also be tariffied through the calculation of a tariff equivalent. Just like tariffs, the effect of the exchange rate can be transferred into imported and exported goods’ prices.

FGV developed a methodology to estimate the implicit tariff dimension behind exchange rate misalignments. A summary of the methodology is presented below. More details can be seen in Thorstensen, Marçal, Ferraz (2012). The objective is to tariffy the exchange rate misalignments and to estimate the impact of the misalignment on the level of the tariff protection, a kind of a tariffication exercise.

**Impacts of exchange rate misalignments on the tariffs levels**

Some simulations can be developed based on the estimates of exchange rate misalignments and its tariff equivalents, obtained through the tariffication of exchange rates.

It is important to stress that the objective of this research is not the search for a precise value for the misalignments, but only a threshold beyond which trade policy instruments become ineffective. It will be for the WTO members to negotiate not only the best methodology to use but also the level of misalignment above which an instrument should be negotiated to neutralize the effects of exchange rate on trade and to regain the effectiveness of its instruments and other GATT/WTO rules negotiated throughout the years.

This paper explores a few hypotheses, using approximated values for misalignments calculated by the FGV Observatory as the average of the last years. The members examined are: the US (-5%) and China (-15%) as examples of undervalued currencies and Brazil (+20%) as an example of an overvalued currency. The EU as a bloc is presented as in equilibrium. This approach can be easily expanded for all WTO members.

The values of tariffs – bound and applied ones – were obtained in the WTO database (*Tariff Analysis Online*) and dated from 2011. A comparison is presented using simple averages of bound and applied tariffs at HS 2 digits. This exercise was replicated till HS 6 digits.

The effects of tariffied exchange rates can be estimated by the variation of both bound and applied average tariffs for these countries through the tariffication exercise. The results of the simulations shows that the effects of exchange rate misalignments on tariff averages are considerable. The results are presented to the US, China, EU and Brazil.
1 – Effects of exchange rates on US’ tariffs

The US’ average bound and applied tariffs present close values, and vary from 0% to +13% (except HS Chapter 24 – tobacco, which average is around 140%).

i) Considering a devaluation of 5% in the US’ exchange rate:

The effect of a -5% exchange rate on tariffs currently varying from 0% to +13%, will result in tariffs varying from +5% to +19%. Therefore, tariffs will become well above the bound values negotiated by the US at the WTO as shown in the following Graphic.

Graphic 7 – Impacts of US Exchange Rate Misalignment on US Bound and Applied Tariffs

Source: Observatory on Exchange Rate

The devaluation of the exchange rate not only represents a subsidy to the exports from countries with devalued currencies, but also creates an extra-tariff to other countries’ imports. Due to the fact that bound and applied rates are almost at the same level for the US, the adjusted tariffs became values well above the WTO’s bound tariffs.

One could question whether the US is not violating the WTO’s rules, especially GATT Article II, which establishes that the contracting parties shall not apply tariffs in excess to the bound tariffs.

ii) To consider the effects of the undervaluation of the US with other countries, one can combine the US with undervalued and overvalued countries. For example: China with -5% and other overvalued countries like Brazil +20%. The results are presented in the following Graphic.
The same HS position will present different tariffs, depending on the country considered.

Graphic 8 – Impacts of Exchange Rate Misalignments on US Tariff Profile
(average 2013)

Source: Observatory on Exchange Rate

In summary, the undervaluation of the US when combined with the undervaluation or the overvaluation of other countries represents a serious danger to one of the main principles of GATT and WTO, the most favorable nation principle, by which members must apply the same tariff to each member of the Organization (GATT Article I).

2 – Effects of exchange rates on China’s tariffs

China’s average bound and applied tariffs, in the double-digit HS, also present close values, and vary from 0% to +33%.

i) Considering the effect of the undervaluation of China with the misalignments of other countries, one can combine the undervaluation of the US (-5%) and with the overvaluation of Brazil (+20%).

Those tariffs currently varying from 0% to +33%, will vary from +10% to +44% when US and China’s misalignments are combined; and from 35% to 76% when Brazil and China’s misalignments are considered.

Therefore, these tariffs are also well above the bound values negotiated by China at the WTO. The devaluation of the exchange rate not only represents a stimulus to the exports from countries with devalued currencies, but also creates an extra-tariff to other countries’ imports. Due to the fact that bound and applied rates are almost the same for China, the adjusted tariffs became values well above the WTO’s bound tariffs. This could, again, raise questions on the violation of GATT Article II.
The results are presented in following Graphic.

As a consequence, the same HS position will present different tariffs, depending of the country considered.

**Graphic 9 – Impacts of Several Exchange Rate Misalignments on China Tariff Profile**

In summary, the devaluation of China’s also endangers the most favored nation principle, GATT Article I.

**3 – Effects of exchange rates on EU tariffs (CET)**

The EU’s average bound and applied tariffs present close values, and vary from 0% to +18% (except HS Chapter 24 – tobacco, which average is around 75%).

The exchange rate of the EU is considered in equilibrium. However, when compared to other countries misalignments as Brazil (+20%), China (-15%) and the US (-5%), the results show tariffs varying for each different country, against what is determined in GATT Article I.
4 – Effects of exchange rates on Brazil’s tariffs

i) For a 20% overvaluation of Brazil’s exchange rate, the results are the following Graphic.

- The average bound tariffs of Brazil, which currently vary from +12% to +50%, with an overvaluation of +20% will vary from -10% to +19%.

- The average applied tariffs of Brazil, which currently vary from 0% to +35% due to its exchange rate overvaluation will vary from -20% to +8%.
An exchange rate overvaluation of +20, represents not only a reduction of Brazil’s bound tariffs but actually reduces applied tariffs to negative levels, becoming an incentive to imports.

In this scenario, it becomes easier to understand the reluctance of some sectors to accept any significant cut on bound tariffs, as it has been negotiated in the Doha Round. The same observation can be made in the context of negotiations in preferential trade agreements.

When compared to other countries misalignments as US (-5%), Germany (-10%), China (-15%) the results show tariffs varying for each different country, against what is determined in GATT Article I.
Graphic 12 – Impacts of Brazil Exchange Rate Misalignment on Brazil Tariff Profile

In summary, the US, China’s and Germany’s exchange rate devaluations, which represent a subsidy to their exports, not only reduced Brazil’s negotiated bound tariffs, but also transformed Brazil’s applied tariffs into a stimulus to US, China and Germany’s imports.

5 – Some conclusions

In conclusion, the coexistence of two different exchange rate misalignments, one for overvalued countries and other for undervalued countries when significant and applied for extended periods of time, represents a serious distortion for many international trade instruments, especially for tariffs, which are essential for efficient rules and practices.

The possible simulations of the effects of exchange rate misalignments on countries’ tariffs are limitless since each country will have a different set of adjusted tariffs for each bilateral trade relationship, considering both countries deviations. The problem is, thus, systemic, affecting potentially every contracting party, with different degrees of distortions. These distortions will be greater where the difference between each country’s exchange rate deviation is wider. The consequences of competitive exchange undervaluation demonstrate the potential for a “race to the bottom” among WTO members.

With the progressive tariff rate reduction throughout the negotiation rounds, and due to the high level of exchange rate misalignments maintained by several important countries, the exchange rate misalignments end up having a greater relevance than tariffs themselves. Although being present in some articles of the GATT and in some agreements of the WTO, the effects of exchange rate misalignments on trade regulation were never taken into consideration, institutionally, by its members. The main GATT article to foresee the effect of exchange rates, Article XV.4 has never been tested neither by the GATT nor by the WTO dispute settlement bodies.
However, the misalignments of exchange rates have significant impacts on the application of trade principles and instruments: it can affect market access concessions. They can affect the balance of tariff negotiation achieved through several multilateral trade rounds. Their effects on tariffs can represent commercial advantage gains for countries with devalued currencies and can bring unpredictability to the multilateral trading system.

IV – A Proposal to address the effects of misalignments on trade

There are already some proposals in discussion to deal with significant and persistent exchange rate misalignments.

One approach is to look for the “manipulators” of exchange rates. This proposal tries to develop a methodology based on IMF Article IV concept of exchange rate manipulation and analyses the magnitude of reserves, current account and currency misalignments. This approach is presented in the work of Joseph Gagnon from the Peterson Institute in Washington, *Combating Widespread Currency Manipulation*, (PB12-19). Fred Bergsten and Joseph Gagnon published another article (Bergsten, 2012) in which they name Switzerland, Japan, Israel, Singapore, China, Malaysia, Thailand, and oil exporters as currency manipulators. This analysis is done following the rationale of the IMF. In 2014, Bergsten proposed a currency clause for trade agreements (PB14-2) based on three criteria: reserves, trade surplus and currency intervention (Bergsten, 2014).

This approach relies on the political will of the IMF to identify a member as a currency manipulator, a very sensitive political issue. Furthermore, as some authors have argued, the way IMF’s Article IV is presently drafted, it is really difficult to prove the *intent* of a member in manipulating its currency in order to gain a “competitive advantage”, especially taking into account the new role of the IMF and its surveillance mechanism. Finally, even if the IMF were to recognize a member as a currency manipulator, it lacks a dispute settlement mechanism or strong remedies to force a member to change its exchange rate policy.

Another possible approach is to look for the “frustrators” of trade objectives. This proposal tries to develop a methodology based on GATT Article XV concept of frustration of trade objectives contained in GATT provisions, that is, the benefits of trade under a set of negotiated rules. This proposed methodology follows the logic of the GATT and is to be implemented and managed by the WTO.

One important difference between the two approaches is that while the first seeks to define what a currency manipulation is, and who are the “guilty countries”, the second approach focuses on the consequences to trade of a wide range of currency-related public policies that are frustrating the objectives of the WTO. In this sense, it does not

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seek to identify currency manipulators, but to tackle the damaging effects of exchange rate misalignments on trade, that is the frustration effect⁴.

1 - The proposal

Estimating exchange rate misalignments is not an easy task. It depends on the model and its hypothesis. To solve this problem and to make a proposal that can be applied by the WTO without consulting the IMF, a simple solution was developed.

The proposal uses some old practices of the GATT.

First, in order to identify when a country would be frustrating trade objectives through exchange rate misalignments, the period of time after which the misalignment sufficiently impacts these objectives must be determined. The GATT Guidelines on Article II.6 of the GATT (L/4938) established that 6 months of exchange rate misalignment would be enough to allow for the renegotiation of the specific import tariffs of a member. One could arguably use this as the relevant lapse of time during which a currency is misaligned in order to seek redress at the WTO level.

The second important issue would be to determine the level of exchange rate misalignment beyond which trade objectives are being frustrated. GATT Article II.6 considered that the misalignment should reach at least 20% before a tariff renegotiation could be asked. One must take into consideration, however that, at the time, import tariffs were, in average, much higher than they are today, and, thus, less sensitive to exchange rate misalignments. Another point is that tariffs from developing countries are higher than developed ones. WTO members would thus need to negotiate a new threshold, possibly significantly lower than the 20% indicated in the Guidelines. Our proposal is to normalize the fluctuations of exchange rate and use standard deviation to construct a band of fluctuations of two standard deviations which encompass more than 90% of variation.

Finally, in order to determine the degrees of misalignment, the threshold should have some flexibility. The proposal here explored is based on the negotiation among WTO members of a band for the fluctuation of exchange rates within negotiated limits. The steps are the following:

1 – Creation of a WTO virtual trade currency – the World Currency (WC) based on the weighted average trade of goods and services from more than 85% of international trade. IMF has its own virtual currency, the SDRs – Special Drawing Rights based on four currencies weighted by the trade on goods and services and also reserves from: dollar, euro, pounds and yen. Why not to expand this idea for the WTO, creating a virtual World Currency.

2 – Estimation of the time series of exchange rate fluctuation for the main trading partners against this WTO currency (WC).

⁴ This issue was subject of a deep discussion held at the Institute of International Economic Law (IIEL) Fellows Lunch meeting at Georgetown University, last January. The authors would like to thank all the participants, and especially Prof. Michael Gadbaw, for the invaluable insights.
3 – Negotiation of a band or target zone for allowable fluctuation. Examples: a band between minus one standard deviation to plus one standard deviation (+1s to -1s) for developed countries and with low tariffs and a band from minus two standard deviations to plus two standard deviations (+2s to -2s) for developing countries with higher tariffs.

4 – Each member would be free to choose the exchange rate arrangement that best fits its economic policy, which shall continue to be overseen by the IMF. Each member can allow fluctuation of its exchange rate inside this negotiated zone. Each time the exchange rate got out of the band this member would have to consult with affected countries in the WTO.

5 – The remedies available could be multilateral, such as raising or cutting tariffs for all the sectors or imposing tariff quotas. The remedy can also be bilateral, as currency anti-subsidies or currency safeguards for affected sectors after examination of injury between the parts affected.

The idea is to create an objective criterion to allow the neutralization of the effects derived from misalignments on trade instruments. The main goal is to develop this exercise using the principles, rules and instruments of the WTO, that is, under the logic of the WTO.

2 - A first simulation: the WTO Box of Snakes

In order to center the discussion on WTO rules and instruments, a methodology was developed to create a box or a target zone for currency fluctuations.

Estimation of Exchange Rate Fluctuations against a Virtual World Currency

This methodology (presented in the Annex) will allow the WTO to estimates misalignments and a band to limit the degree of variation of these misalignments.

The idea is to create a world currency to evaluate the fluctuations of each singular currency against this world currency and use these deviations to neutralize the effects of exchange misalignments on trade instruments.

The approach is based on the PPP – Purchasing Power Parity, one of the simplest concepts of Economics – the Law of One Price. Following this Law, on the long run, all prices will be equal, translated by the exchange rate of each country. There is a debate on the validity of PPP theory in the literature. However, there has been a revival of this approach after new estimates based on very long periods of time (Alan Taylor, *The Purchasing Power Debate*, JEP, 2004).

Finally all the series were adjusted to have mean equals to zero and variance equals to one. The Graphic 13 presented the results of the estimation. Variations of each currency were presented in a box defined by one or two standard deviations, implying that the box can capture 60% or 95% of the exchange rate misalignments. This approach allows comparability of the misalignments among different countries.

As depicted in the Graphic 13, a threshold band defined by + or – one standard deviation, many countries would have to consult in the WTO. For a threshold band defined by + or – two standard deviations, only a few members would be considered. A
A reasonable solution would be somewhere between one and two standard deviations, such as 1.5 standard deviation.

The results are presented below.

Graphic 13 – The WTO box of snakes – G20

Source: Observatory on Exchange rate

V – PTAs and currency misalignments

There are more than 500 PTAs notified to the WTO. The new wave of PTAs is the mega-agreements created by the US and the EU. The issue of currency and trade was raised by some industrial sectors in the US worried by the exchange rate misalignments from Southeast-Asia and Japan. A proposal to treat the distortions of misalignment was presented by Bergsten from the Peterson Institute (PB 14-2) based on the concept of manipulation through three criteria: size of reserves, size of surplus of trade balance and on the degree of intervention on the currency market (Bergsten, 2014).

Using the methodology developed in this paper, several “boxes of snakes” were elaborated for these mega arrangements: TTIP and TPP.

The results were significant. In many stances, the values of the misalignments are much bigger than the concessions given for preferences.
The Agreement between Mercosul and EU

The UE and Mercosul are negotiating a preferential arrangement since 1995, when a political decision was reached to launch an ambitious trade agreement between two customs unions. Seventeen years later, negotiations are still taking place. All important aspects of the preferential agreement are already tabled, but the main obstacles are still the same since the beginning: market access for agricultural goods in the EU and market access for industrial goods in Mercosul.

After huge negotiation efforts from both sides, exporters are eager to get new markets but domestic producers are worried about the impact of the present economic crisis on their production.
The main argument of this paper clearly shown that negotiations should be diverted from the old trade issues of tariffs and tariff quotas, because due to the significant effects of misalignments on tariffs, this negotiation is a pure illusory exercise, devoid of any economic sense. A better idea is to concentrate on non-tariff barriers as customs practices, facilitation, rules of origin, TBT, SPS, private standards, competition and investment, that is, on rules to reduce the differences between partners practices. Discussions on tariff reductions should be finalized only after a solution to neutralize the effects of exchange misalignments on tariffs can be achieved between the partners or at the WTO.

Negotiations between the EU and Mercosul are reaching a decisive phase. After 17 years of discussion, parts are ready to present their proposals on tariff. However, after the analysis of the impacts of exchange rate misalignments on tariffs one can seriously challenge the usefulness of such exercise. As shown in this paper, depending of the significance and persistence of each country exchange rate misalignments, preferences negotiated today can lose all their effects a day after.

An agreement between the EU and Mercosul, after so many years in negotiation, has no guarantee for the maintenance of preferences for long: they can be eroded by countries presenting persistent undervalued currencies.

**Graphic 16 - Box of snakes for the EU, Brazil and US (main European countries)**

![Box of snakes for the EU, Brazil and US (main European countries)](image)

Source: Observatory on Exchange rate (2013)

**VI - Final Conclusions**

The issue of exchange rate misalignments is already in the news as currency wars menace, leading to trade wars. This discussion is being held not only at the G20, but also at the IMF and at the WTO.

The real problem is how the significance and persistence of these misalignments are distorting not only trade rules but also financial rules. In other words, whether exchange rate misalignments are affecting the objectives of trade and financial policies and neutralizing the efficiency of their instruments.
The origin of the problem can be traced back to the creation of the Bretton Woods System in the 1940’s with the functional distinction between the GATT and the IMF. The GATT was created to be responsible only for trade and the IMF for exchange rates and balance of payments practices. At the time, the system worked under the dollar/gold standard regime. However, even after the implosion of this system, only the IMF was adapted to face different exchange rate regimes. The GATT and the WTO remained silent and paralyzed facing this revolution, expecting that the trade system could survive this tectonic shift.

With the advent of China in the international arena, as a new economic power and the world’s biggest exporter of goods, and its influence on the currency of almost all ASEAN area countries, the exchange rate issue has been globalized. The successive monetary expansion of the US (QEs) and later UE and Japan are affecting directly the international trade policy of all trade partners. For the WTO, the only rule linking trade and exchange rate, since 1947, has been GATT Article XV.

No member has ever had the initiative to contest the practice of another member under this article. To solve the issue, several proposals for the use of trade remedies, such as antidumping and countervailing measures to offset the exchange rate effects have been discussed\(^5\). But again, no member has so far applied them as an instrument to neutralize the use of exchange rates as unfair trade, although there is already an important discussion in the US Congress.

Considering the extent and persistence of last couple of years’ exchange rate misalignments, and their effects on trade, pressure is mounting for the negotiation of some kind of solution. Discussions were held in the G-20, the IMF and the WTO, but nothing has yet been achieved.

Nowadays, economists are consolidating an important academic production indicating the extent of the problem.

These studies present different methodologies and a great variety of results because they have different objectives. For the WTO, the perfect accuracy of the exchange rates misalignment estimates is not relevant. The main point is to find out a threshold, a limit for a fluctuation band, from where trade policy instruments become ineffective. This happens when the impacts of exchange rates nullify the efficacy of the rules negotiated in the trading system over the last six decades.

The results presented in this paper on the effects of exchange on tariffs are evident and strong:

- Countries with undervalued exchange rates, depending on the level of such depreciation, can have their bound and applied tariffs being increased in greater proportions than the notified tariffs. For countries with a small difference between applied and bound tariffs, any depreciation may imply that applied tariffs surpass the limits negotiated within the WTO as a possible violation of GATT Article II. Considering the cumulative effects of misalignments, each importing country will offer different market accesses to different exporter country violating GATT Article I.

\(^5\) See Lima-Campos, A.; Gil, J. A. Gaviria, A case for misalingned currencies as countervailable subsidies, Journal of World Trade, v. 46, i. 4, 2012
Countries with overvalued exchange rates, depending on the level of such appreciation, can have their bound and applied tariffs reduced or nullified to negative levels, implying that the country is granting a stimulus to imports and waiving the tariff protection level negotiated within the WTO.

Against the reality of exchange rate misalignments, it is time to start negotiating a mechanism to neutralize exchange rate effects on tariffs and other trade instruments, which will allow the maintenance of the level of market access previously established, and the remedies imposed by investigations of unfair trade. Pressure is mounting to the creation of a mechanism to neutralize currency misalignment in some PTAs. It is time to think about such mechanism in the TPP, TTIP and EU-Mercosul agreements.

But there is no better solution then the multilateral solution. It is time for WTO to act!

WTO is facing a serious identity crisis. Without the neutralization of the effects of misalignments on WTO rules and instruments, WTO is a strong juridical construction with a weak economic basis. WTO should not wait for a new Bretton Woods be negotiated again. If WTO remains silent on this issue, PTAs will take the matter on their hands. WTO should stay in the front of trade regulation and lead the reform of the multilateral trading system to face the reality of currencies that are frustrating all the objectives of the WTO: its principles and rules!
BIBLIOGRAPHY


Lima-Campos, A.; Gil, J. A. Gaviria, A case for misaligned currencies as countervailable subsidies, Journal of World Trade, v. 46, i. 4, 2012


ANNEX 1

World Price Index and World Currency Index

The methodology to construct the World Price Index and the World Currency Index, both inputs to calculate the PPP index based on world indexes uses the relative PPP approach. This approach states that the rate of appreciation/depreciation of a currency is equal to the difference in inflation rates between home and foreign country (in our case, the World Index). If the equality does not hold, there is an indication that the currency is overvalued or undervalued against the World Currency Index. An increasing PPP indicates that the country’s currency is overvalued and losing competitiveness and a decreasing PPP shows the inverse relation.

The first step is to construct the indexes. Twenty countries\(^6\) were selected with the biggest shares in world trade (exports plus imports)\(^7\). Using the trade data of each country, the weight of each country in the selected basket for each period can be calculated. The weight of the country in the basket \(i\), at the time \(t\), can be expressed as:

\[
W_{it} = \frac{\text{Imports}_{it} + \text{Exports}_{it}}{\sum_{i=1}^{N}(\text{Imports}_{it} + \text{Exports}_{it})}
\]

The second step is to calculate the World Price Index, using the Consumer Price Index of each country in the basket. The World Price Index, can be defined as:\(^8\):

\[
WPI_t = \sum_{i=1}^{N} W_{it} CPI_{it}
\]

The third step is to use the same idea to construct the World Currency Index. Given, \(e_{it}\), the exchange rate (national currency per U.S. Dollar) of the country \(i\), at the time \(t\), the index is defined by:\(^9\):

\[
WCI_t = \sum_{i=1}^{N} W_{it} e_{it}
\]

The forth step is, after estimating WPI and WCI, to calculate the Purchasing Power Parity, for the country \(i\), at the time \(t\), as given by:

\[
ppp_{it}^{WCI} = \frac{CPI_{it} WCI_{t}}{WPI_t e_{it}}
\]

After this, PPPs were normalized for Jan-2000=100.

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\(^6\) To calculate the indexes the following countries were selected: Australia, Austria, Belgium, Brazil, Canada, China, France, Germany, India, Italy, Japan, Korea, Malaysia, Mexico, Netherlands, Spain, Sweden, Switzerland, United Kingdom and United States. Due to lack of data, we couldn’t add: Czech Republic, Hong Kong, Indonesia, Poland, Singapore, Russia, Thailand and Turkey. OPEC countries: Saudi Arabia and United Arab Emirates were also not considered.

\(^7\) Source: IMF, Annual Frequency

\(^8\) The CPI indexes are available at IFS/IMF database, Monthly Frequency. Jan-2000=100

\(^9\) The exchange rates are also available at IFS/IMF database, Monthly Frequency. They have been normalized to Jan-2000=1.
Finally all the series were adjusted to have mean equals to zero and variance equals to one. Variations of each currency were presented in a box defined by one or two standard deviations, implying that the box can capture 60% or 95% of the exchange rate misalignments.