EXCHANGE RATES AND TRADE

OBSERVATORY ON EXCHANGE RATES
SÃO PAULO SCHOOL OF ECONOMICS
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Prof. Vera Thorstensen, Prof. Emerson Marçal, Prof. Lucas Ferraz
Big Mac Index – 1/2013
IMF Estimates of Exchange Rate Misalignments (6/2012)
Pilot External Sector Report

Estimated Differences between Real Effective Exchange Rate
and those Consistent with Fundamentals and Desirable Policies
(Percent)

Source: IMF Staff Calculations
Misalignment from FEER – Cline and Williamson
Exchange rate misalignments 2010 - 2012
(Shin, Johansen, Engle-Granger) FGV

Exchange Rate Misalignment Estimates (2010-2012)

Methodologies:
Fundamentals analysis - fundamentals estimated using 3 methodologies: Shin, Engle & Granger and Johansen.
Exchange rate misalignments 2010 - 2012
(Shin, Johansen, Engle-Granger) FGV

Methodologies:
Fundamentals analysis - fundamentals estimated using 3 methodologies: Shin, Engle & Granger and Johansen.
REER Misalignments - PI x IMF x FGV Estimations

- Peterson Institute - Oct 2012
- IMF Article IV Staff Reports 2011-2012
- FGV - 2012
Brazil: real exchange rate, fundamentals and exchange rate misalignments (annually)

Sources: Misalignment estimates – Observatory on Exchange Rate - EESP/FGV (2013)
US: real exchange rate, fundamentals and exchange rate misalignments (annually)

Sources: Misalignment estimates – Observatory on Exchange Rate - EESP/FGV (2012)
China: real exchange rate, fundamentals and exchange rate misalignments (annually)

Sources: Misalignment estimates – Observatory on Exchange Rate - EESP/FGV (2013)
European Area: Exchange Rate Misalignments  
(2009 – 2011)

*Swiss 2011 misalignment estimate at its highest peak of overvaluation before CB intervention*
To examine the impact of exchange rate misalignments on trade, one possibility is to transform a misalignment into a tariff and then to adjust the import tariff of each country, through a "tariffication" exercise.

An overvalued exchange rate has the effect of reducing or nullifying the import tariffs of the overvalued country, creating an incentive to import from third countries.

An undervalued exchange rate, on the other hand, will give an incentive to export from the undervalued country. A country’s undervalued currency will have the effect of increasing its import tariffs, sometimes above the bound levels at the WTO.

The equation used to "tarifficate" the effects of exchange rate misalignments is presented in the next slide.
Tariffication of Exchange Rates

\[ t_{\text{just}} = \left( - \frac{d(\Theta^*)}{\Theta^*} + \frac{d(\Theta_{\text{dom}})}{\Theta_{\text{dom}}} \right) + t \left( 1 + \left( - \frac{d(\Theta^*)}{\Theta^*} + \frac{d(\Theta_{\text{dom}})}{\Theta_{\text{dom}}} \right) \right) \]
Simulations regarding the effects of exchange rate misalignments on selected Tariff Profiles

- Using the “tariffication methodology”, one can represent the effects of exchange rate misalignments on a country Tariff Profile.

- The Tariff Profile is comprised of bound tariffs and applied tariffs

- **Bound tariffs** are the tariffs negotiated at the WTO as the maximum permitted level of an import tariff.

- **Applied tariffs** are the import tariffs actually applied by a country and notified to the WTO

- After applying the “tariffication methodology” the results are adjusted bound and applied tariffs that represent the actual level of protection of a given country.

- In the following slides we present the simulations for Brazil, US and EU Tariff Profiles, considering the effects of the exchange rate misalignments of selected countries.
Impacts of Exchange Rates on China Tariff Profile
China devaluation in 2012 (17%)

China Tariffs x Adjusted Tariffs - Effects of China 17% Exchange Rate Devaluation (2012)
Simple averages at HS 2 digits - source WTO

- Applied Tariffs (simple average)
- Adjusted Applied Tariffs: China - 14%
- Bound Tariffs (simple average)

Categories:
- Cereals
- Sugar
- Tobacco
- Meat
- Wool
- Clothing
- Footwear
- Musical instruments
- Miscellaneous manufactured articles
- Furskins
- Vehicles
- Tobacco
Impacts of Exchange Rates on China Tariff Profile (2012)
Ch-Brazil (37%), Ch-Germany (13%), Ch-US (12%) Bilateral Misalignments

China Tariffs x Adjusted Tariffs - Effects of Selected Countries Exchange Rate Deviations (2012)
Simple averages at HS 2 digits

- Adjusted Applied Tariffs - effect of CH + BR deviations - 37%
- Adjusted Applied Tariffs - effect of GER + CH deviations: 13%
- Adjusted Applied Tariffs - effect of CH + USA deviations: 12%

Brazilian exporter (2012)
German exporter
American exporter

Bound Tariffs (simple average)
Applied Tariffs (simple average)
Impacts of Exchange Rates on US Tariff Profile
US devaluation in 2012 (5%)

USA Applied Tariffs x Adjusted Tariffs - Effects of USA Exchange Rate Devaluation
Simple averages at HS 2 digits - source WTO (2010)

- Tobacco
- Clothing
- Dairy
- Vegetables
- Leather
- Cotton
- Wool
- Footwear
- Locomotive

Applied tariffs
Adjusted applied tariffs: USA - 5%
Bound tariffs

FGV Centro de Comércio Global e Investimento
US-Brazil (25%), US-Spain (9.5%), US-China (12%) Bilateral Misalignments

USA Applied Tariffs x Adjusted Tariffs - Effects of Selected Countries Deviations (Article I)
Simple averages at HS 2 digits - Except HS sector 24 (Tobacco)
Impacts of Exchange Rates on Brazil Tariff Profile
Brazil Overvaluation in 2012 (20%)
Impacts of Exchange Rates on Brazil Tariff Profile
Brazil-China (37%), Brazil-US (25%), Brazil-Germany (24%) Bilateral Misalignments in 2012

Brazilian Market Adjusted for Multiple Exchange Rate Misalignments
Simple averages at HS 2 digits

1. Dairy
2. Beverages
3. Tobacco
4. Leather
5. Cotton
6. Clothing
7. Steel
8. Tools
9. Vehicles

Applied Tariffs
Brazilian Producer

Adjusted Applied Tariffs - effect of BR + GER: 24%
Adjusted Applied Tariffs - effect of BR + USA: 25%
Adjusted Applied Tariffs - effect of BR + CH: 37%
Impacts of Exchange Rates on EU Tariff Profile
Brazil (40%), US (7%), China (14%) Misalignments in 2011 and Brazil (15%) in 06/2012

EU Market - Effects of Selected Countries Deviations (Article I)
Simple averages at HS 2 digits - Exchange rate misalignments for 2011-12

- Adjusted Applied Tariffs - Exchange Rate Overvaluation BR - 40%
- Adjusted Applied Tariffs - Exchange Rate Overvaluation BR - 15% (06/2012)
- Bound Tariffs
- Applied Tariffs
- Adjusted Applied Tariffs - Exchange Rate Devaluation USA - 7%
- Adjusted Applied Tariffs - Exchange Rate Devaluation China - 14%

Brazilian exporter (2011)
Brazilian exporter (06/2012)
American exporter
Chinese exporter
Conclusions

- Countries with overvalued exchange rates (Brazil) have their negotiated tariffs reduced or nullified.

- Countries with undervalued exchange rates (USA, China) grant subsidies to their exports and their applied tariffs surpass the bound levels agreed at the WTO.

- Substantial and persistent exchange rate misalignments significantly affect or nullify most WTO rules: tariffs, antidumping, countervailing measures, safeguards, rules of origin, regional agreements, DSB retaliations...

- Problem: the WTO does not have adequate rules to address the exchange rate issue
Solutions

- IMF - manipulation (Article IV)

- WTO - frustation (Article XV)
General Agreement on Tariffs and Trade (GATT)

Article XV:4

Contracting parties shall not, by exchange action, 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 International Monetary Fund.

* Ad Article XV -Paragraph 4

The word “frustrate” is intended to indicate, for example, that infringements of the letter of any Article of this Agreement by exchange action shall not be regarded as a violation of that Article if, in practice, there is no appreciable departure from the intent of the Article. Thus, a contracting party which, as part of its exchange control operated in accordance with the Articles of Agreement of the International Monetary Fund, requires payment to be received for its exports in its own currency or in the currency of one or more members of the International Monetary Fund will not thereby be deemed to contravene Article XI or Article XIII. Another example would be that of a contracting party which specifies on an import license the country from which the goods may be imported, for the purpose not of introducing any additional element of discrimination in its import licensing system but of enforcing permissible exchange controls.
General Agreement on Tariffs and Trade (GATT)

Article II:6

(a) The specific duties and charges included in the Schedules relating to contracting parties members of the International Monetary Fund, and margins of preference in specific duties and charges maintained by such contracting parties, are expressed in the appropriate currency at the par value accepted or provisionally recognized by the Fund at the date of this Agreement. Accordingly, in case this par value is reduced consistently with the Articles of Agreement of the International Monetary Fund by more than twenty per centum, such specific duties and charges and margins of preference may be adjusted to take account of such reduction; provided that the CONTRACTING PARTIES (i.e., the contracting parties acting jointly as provided for in Article XXV) concur that such adjustments will not impair the value of the concessions provided for in the appropriate Schedule or elsewhere in this Agreement, due account being taken of all factors which may influence the need for, or urgency of, such adjustments.
IMF’s Articles of Agreement

Article IV: Obligations Regarding Exchange Arrangements

Section 1. General obligations of members

Recognizing that the essential purpose of the international monetary system is to provide a framework that facilitates the exchange of goods, services, and capital among countries, and that sustains sound economic growth, and that a principal objective is the continuing development of the orderly underlying conditions that are necessary for financial and economic stability, each member undertakes to collaborate with the Fund and other members to assure orderly exchange arrangements and to promote a stable system of exchange rates. In particular, each member shall:

(i) endeavor to direct its economic and financial policies toward the objective of fostering orderly economic growth with reasonable price stability, with due regard to its circumstances;

(ii) seek to promote stability by fostering orderly underlying economic and financial conditions and a monetary system that does not tend to produce erratic disruptions;

(iii) avoid manipulating exchange rates or the international monetary system in order to prevent effective balance of payments adjustment or to gain an unfair competitive advantage over other members; and

(iv) follow exchange policies compatible with the undertakings under this Section.
Assume a World with different exchange rate arrangements

- Allow undervalued countries to renegotiate specific tariffs
- CP ask IMF to calculate size of depreciation
- Undervaluation was more than 20%
- Basket of currencies of 85% of imports
- Period of analysis for size of depreciation:
  - rate of 6 months preceding the request × 6 months
  - preceding last bound (weighted average)
IMF’s Articles of Agreement

Article IV: Obligations Regarding Exchange Arrangements

Section 3. Surveillance over exchange arrangements

(a) The Fund shall oversee the international monetary system in order to ensure its effective operation, and shall oversee the compliance of each member with its obligations under Section 1 of this Article.

(b) In order to fulfill its functions under (a) above, the Fund shall exercise firm surveillance over the exchange rate policies of members, and shall adopt specific principles for the guidance of all members with respect to those policies. Each member shall provide the Fund with the information necessary for such surveillance, and, when requested by the Fund, shall consult with it on the member’s exchange rate policies. The principles adopted by the Fund shall be consistent with cooperative arrangements by which members maintain the value of their currencies in relation to the value of the currency or currencies of other members, as well as with other exchange arrangements of a member’s choice consistent with the purposes of the Fund and Section 1 of this Article. These principles shall respect the domestic social and political policies of members, and in applying these principles the Fund shall pay due regard to the circumstances of members.
A NEW PROPOSAL

- Create a world currency

- Negotiate a fluctuation band

- Solve the conflict bilaterally
Brazil – Bilateral Misalignments

Brazilian Bilateral Real Exchange Rate Misalignment

- Argentina
- Australia
- Austria
- Belgium
- Brazil
- Canada
- China
- Colombia
- Denmark
- Finland
- France
- Greece
- Hong Kong
- Ireland
- Italy
- Japan
- Korea
- Mexico
- Netherlands
- New Zealand
- Norway
- Portugal
- Spain
- Sweden
- Switzerland
- United Kingdom
- United States
- Uruguay
- South Africa
- Indonesia
- Turquia
Substantial and persistent exchange rate misalignments affect the effectiveness of trade instruments negotiated at the WTO. Therefore, they must be object of WTO regulation.

Juridical concept of time x economic concept of time
(time of violation x time for long run equilibrium)

In summary:

The WTO must address the effects of exchange rate misalignments or misaligned exchange rates will turn the WTO into a juridical and economic fiction !!!