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**DEVIATIONS FROM PPP:  
DETERMINANTS OF  
THE REAL EXCHANGE RATE**

# PPP? THE PRICE OF BIG MACS AROUND THE WORLD

- In summer 1986, The Economist conducted survey of Big Mac prices around the world. They update their calculations regularly.
- This is a good test of the law of one price. What did they find? Well, the price of Big Macs are very different in different countries.
- Potential explanations: transport costs; government regulations (taxes, etc.); product differentiation (in some countries, few close substitutes for Big Macs are available); the fact that price must cover not only cost of meat and buns but also wages, rent, electricity, etc.

## BIG MACS AND PPP (2)

- Subsequent surveys have shown no tendency toward a narrowing of price differentials.
- Sometimes, prices even differ among American cities, which suggests that government-imposed restrictions on international trade are not the most important factor causing deviations from the law of one price.
- What can it say about exchange rates? Well, if PPP holds, remember that  $e = \text{price ratio}$ , so you can compute exchange rates that would prevail if the law of one price governed Big Mac prices.
- Then, The Economist compares with the actual exchange rate, and reports the percentage “over evaluation” or “under evaluation” compared to PPP.

# NONTRADABLE GOODS

- Transport costs make it expensive to move goods between markets located in different countries, and therefore weaken the law of one price underlying PPP.
- For some goods and services, transport costs may be so large relative to their cost of production that they can never be traded internationally at a profit: nontradables.
- Classic example: a haircut. If you are in the UK and you want an American haircut, you would have to go there or transport the American hairdresser to the UK...
- As a result, American haircuts are consumed by US residents while UK haircuts are consumed by UK residents.

- The existence in all countries of nontraded goods and services whose prices are not linked internationally allows systematic deviations from PPP.
- Each country's price level includes a variety of nontradables: haircuts, routine medical treatment, aerobic dance instruction, housing, etc.
- Broadly speaking: tradables are manufactured products, raw materials and agricultural products. Nontradables are primarily services and the output of the construction industry.

- exceptions though: financial services provided by banks can often be traded internationally: moreover, new technologies and the Internet can make some services tradable internationally, even though they could not be traded before.
- Moreover, trade restrictions can make some manufactured goods nontraded.

# TWO MODELS TO EXPLAIN DEVIATIONS FROM PPP

Read Chapter 7 in the e-textbook by Schmitt Grohe and Uribe  
(link to the pdf document provided on my course webpage)

- We'll see two reasons why there are deviations from PPP (i.e why there are variations in the real exchange rate):
- Productivity differentials when some goods are nontradable.
- Trade barriers