Japan and USA in the Two-Period Model

Ryoichi Imai

Kyushu University

USA and Japan

- USA and Japan are the largest and the second largest countries in the world in terms of economy. Their total GDP accounts for a half of the world GDP.
- Neglecting other countries, we can view the world economy as a US and Japan relationship.
- We can view Japan and USA as two agents, who consider trading their present consumption for future consumption.
- Since 1980, Japan has recorded a huge current account surplus, but US has recorded a huge current deficit.

Current Account and Excess Saving

- Current Account (CA) is (almost) equal to Saving minus Investment. In this sense, it is sometimes called as Excess Saving.
- Japan’s large CA surplus and US’s large CA deficit means that Japan trades its present consumption for its future consumption with US.

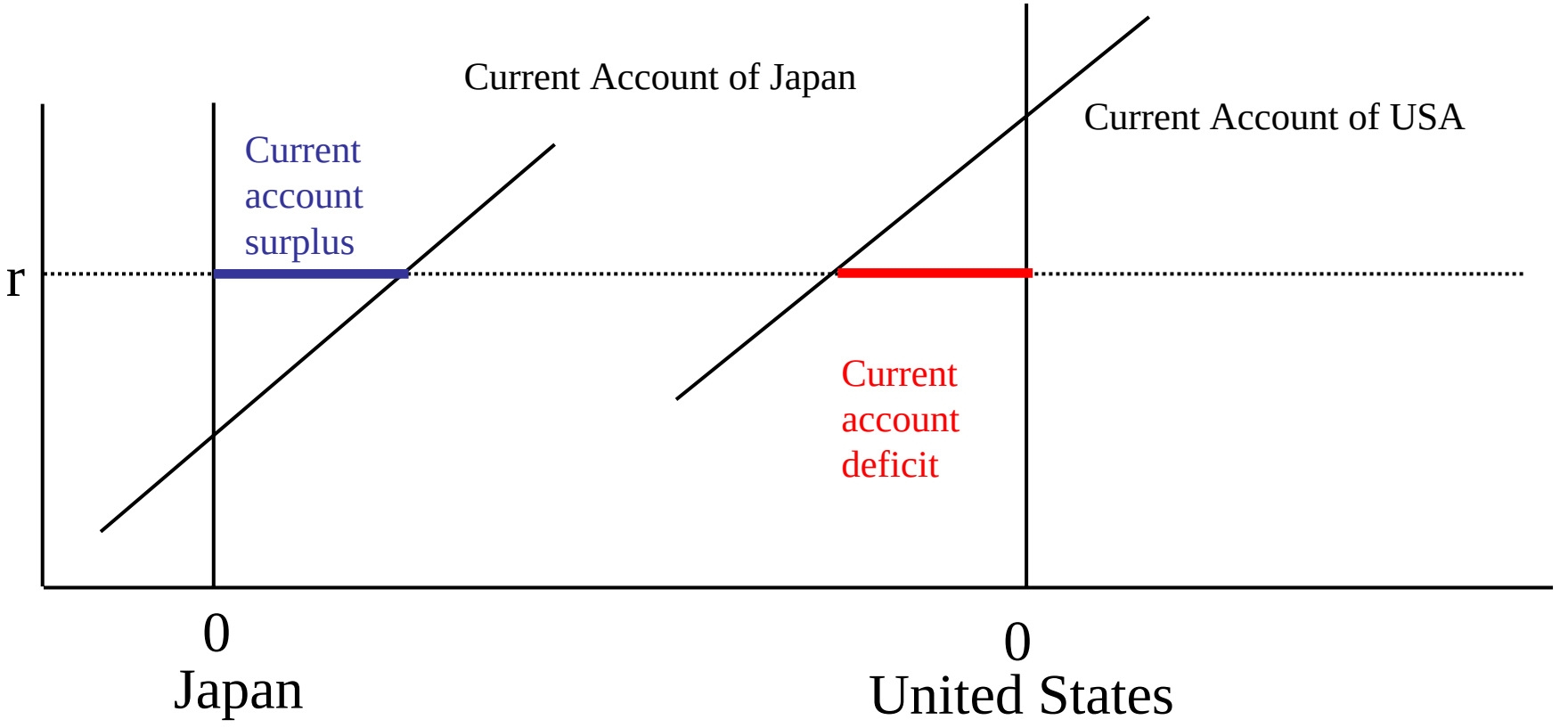
Current Account and the World Interest Rate(s)

- Today, the international capital market is highly integrated over national borders.
- The interest rates that are set in the international capital market are called the World Interest Rates.
- The World Interest Rates are so set as the international capital market clears. In other words, a negative excess saving of USA is financed by positive excess savings of Japan.

Interest Rates and Current Account

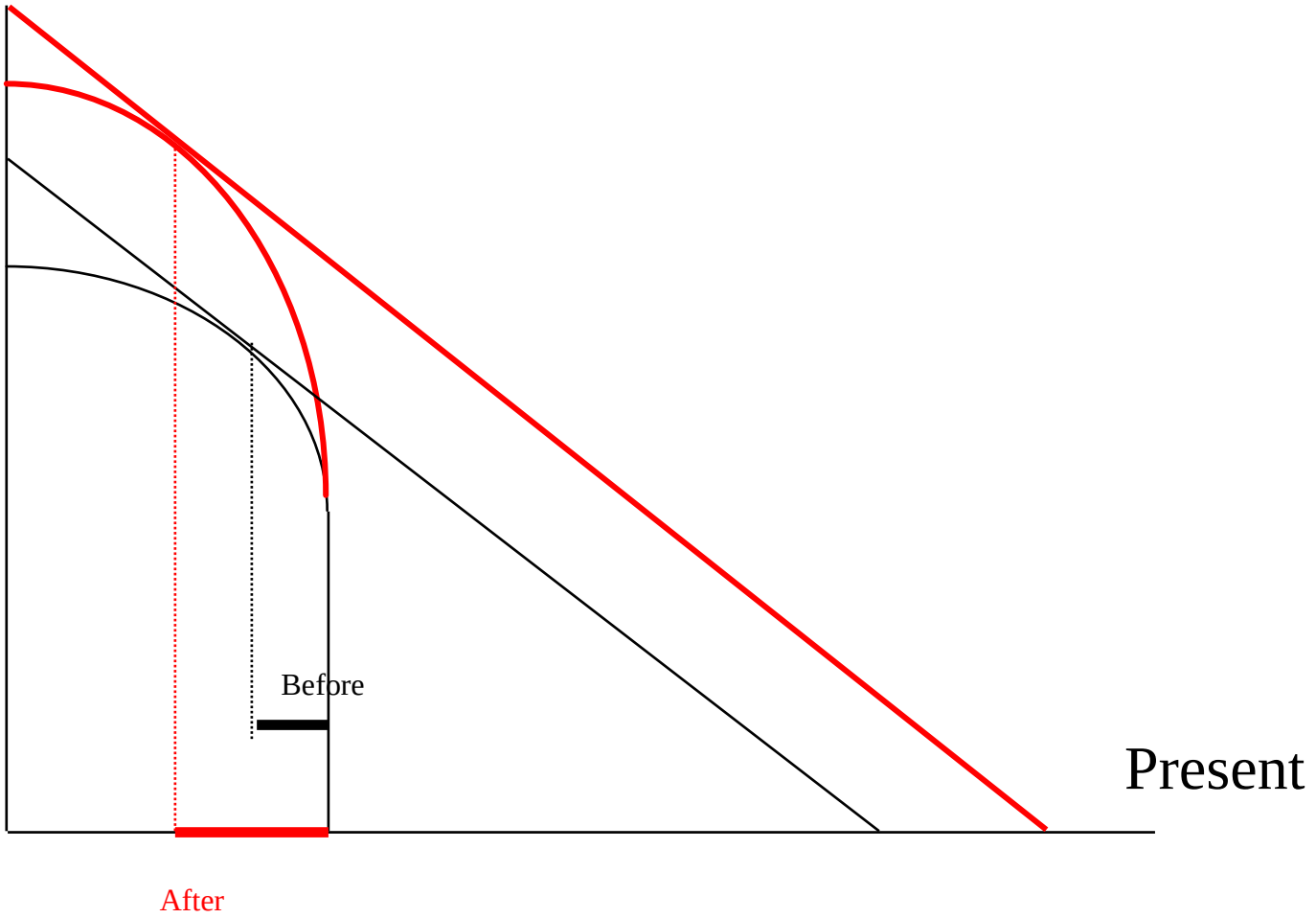
- Saving increases (in regular cases) as the interest rate goes up.
- Investment decreases as the interest rate goes up.
- Therefore, the current account increases as the interest rate goes up, since it is equal to saving minus investment.

The Determination of the international Interest Rate (Metzler's Diagram)

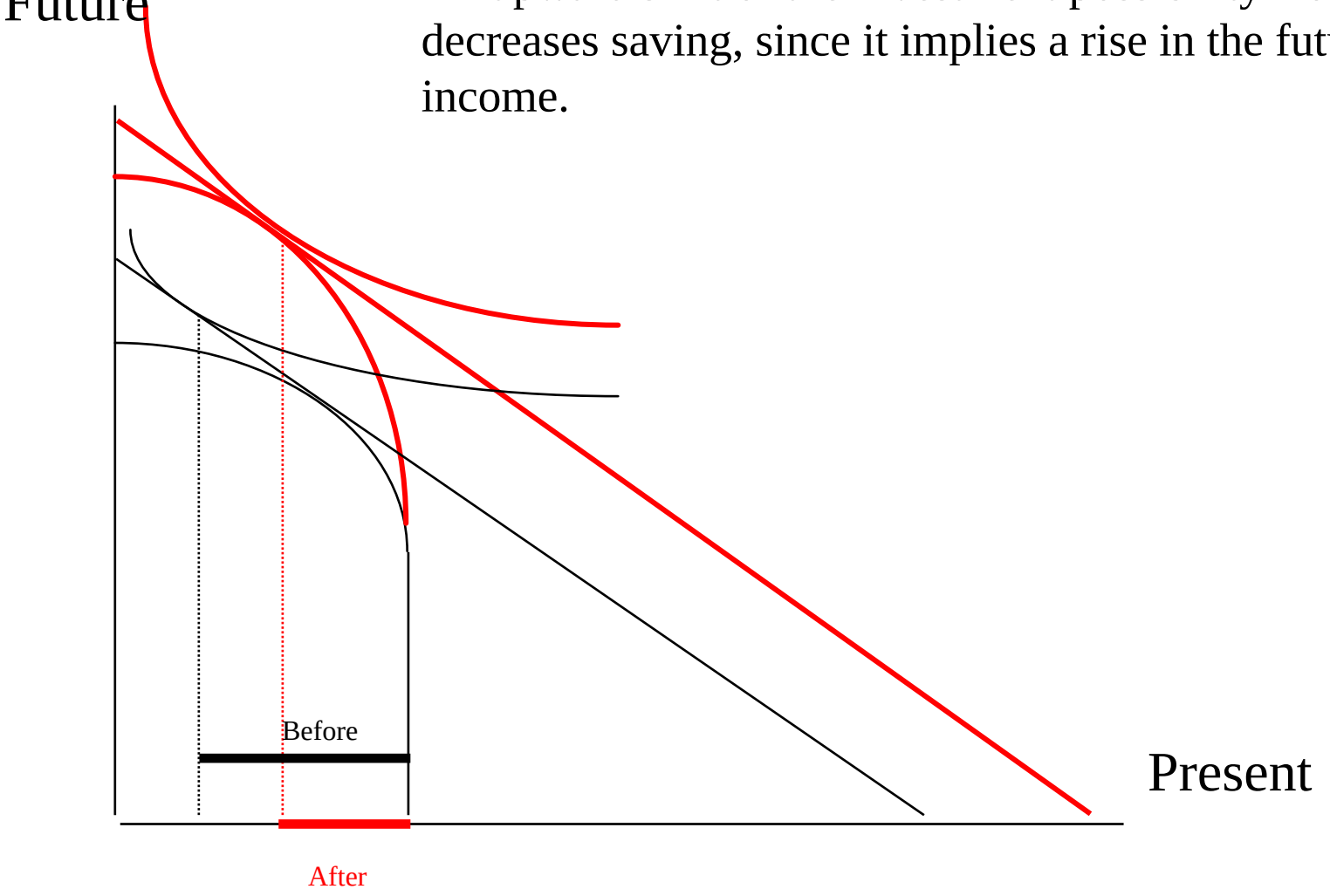


The International interest rate is determined such that the excess investment of the US is just financed by the excess saving of Japan.

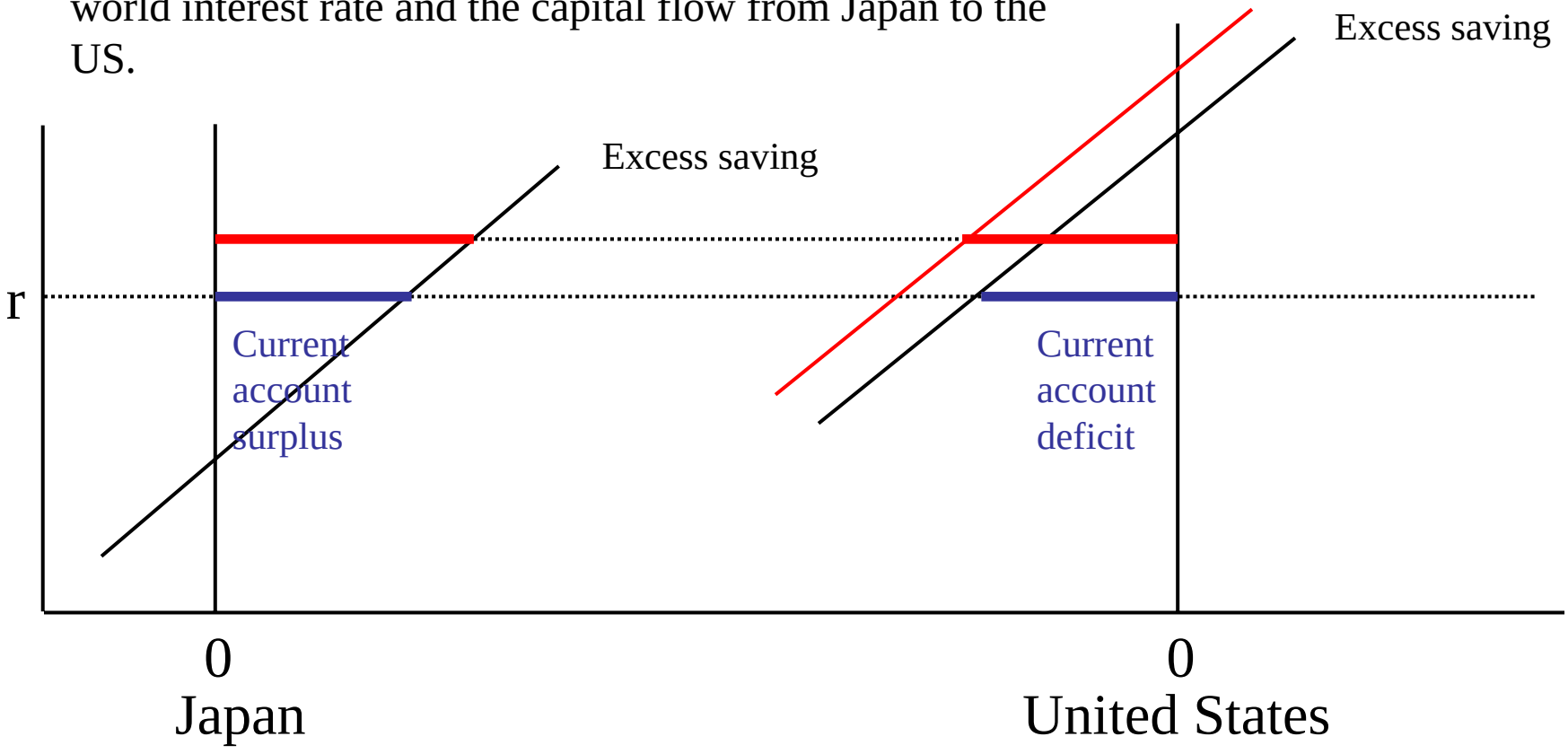
Given the interest rate, an upward shift of the investment possibility frontier increases the investment.



An upward shift of the investment possibility frontier decreases saving, since it implies a rise in the future income.



A technological progress in the US increases both the world interest rate and the capital flow from Japan to the US.

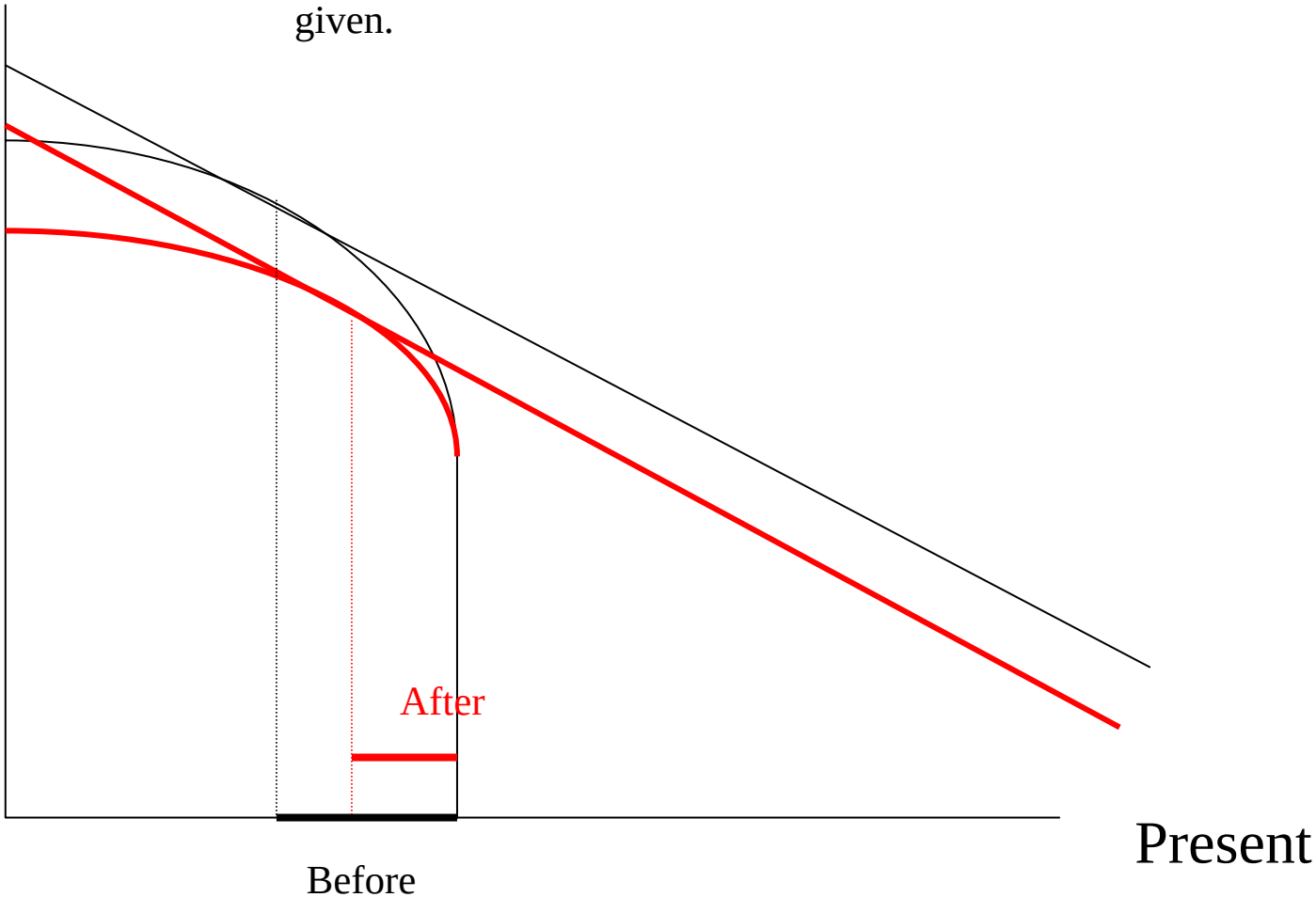


Without a rise in the world interest rate, the excess investment of the US would not be financed by the excess saving of Japan.

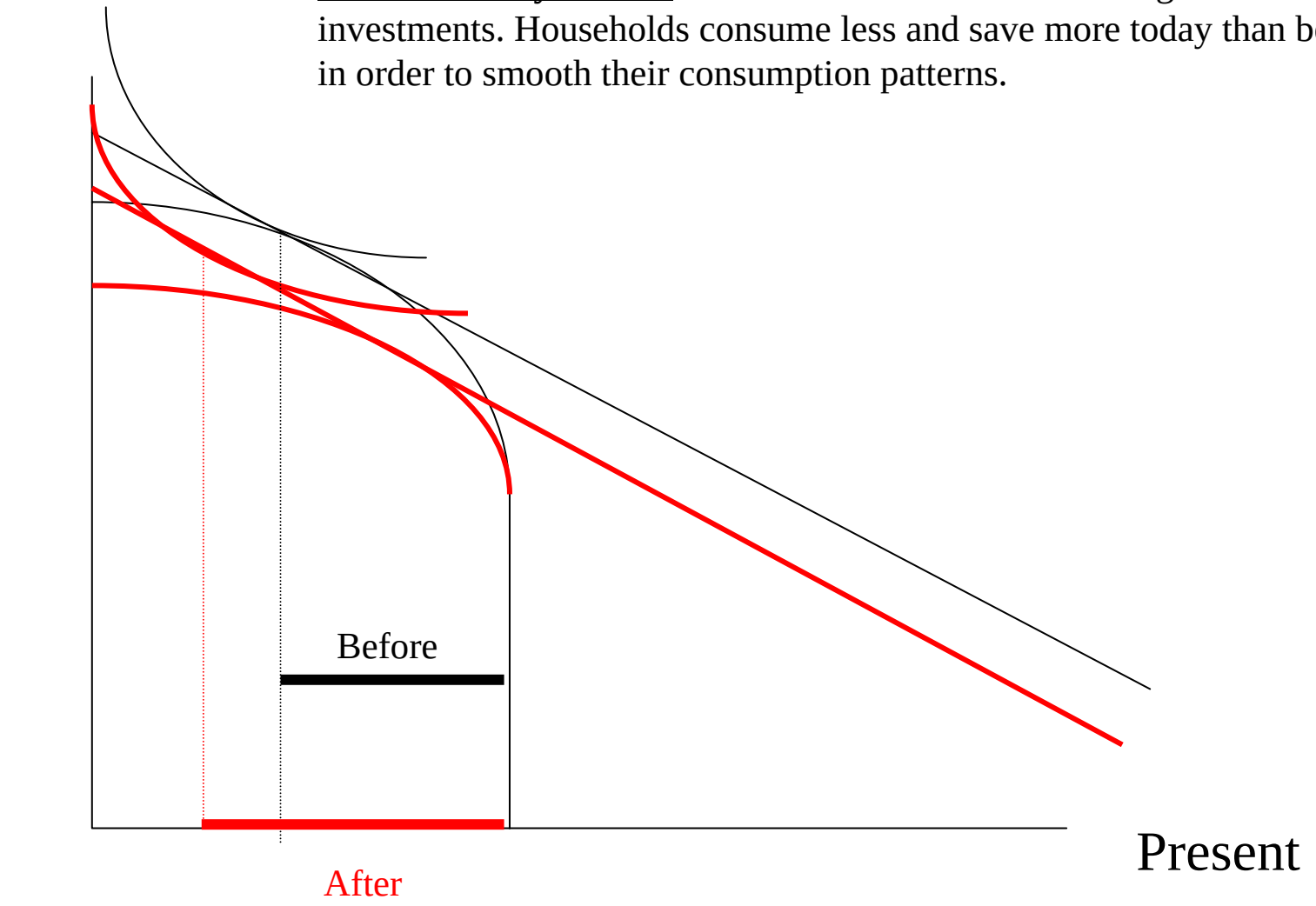
The Effects of a technological progress in the US

1. The world interest rate rises.
2. Investment increases in the US but decreases in Japan.
3. The US economy grows faster but the Japanese economy grows slower.
4. There are increases in both the US' current account deficit and the Japan's current account surplus.

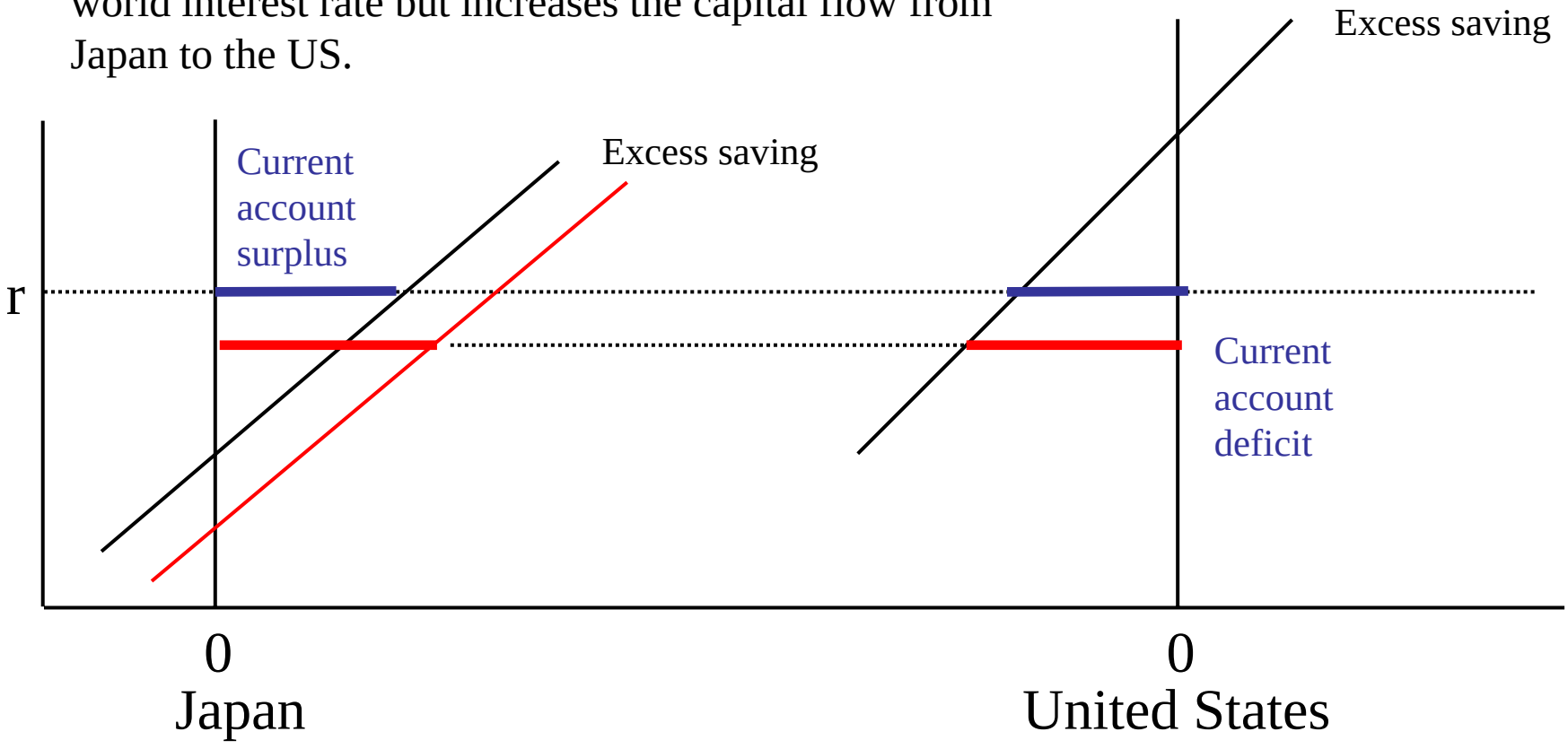
A Productivity decline shifts down the investment possibility frontier, and reduces domestic investments with the interest rate as given.



A Productivity decline reduces the future income through a decline in investments. Households consume less and save more today than before in order to smooth their consumption patterns.



A technological slowdown in Japan decreases both the world interest rate but increases the capital flow from Japan to the US.



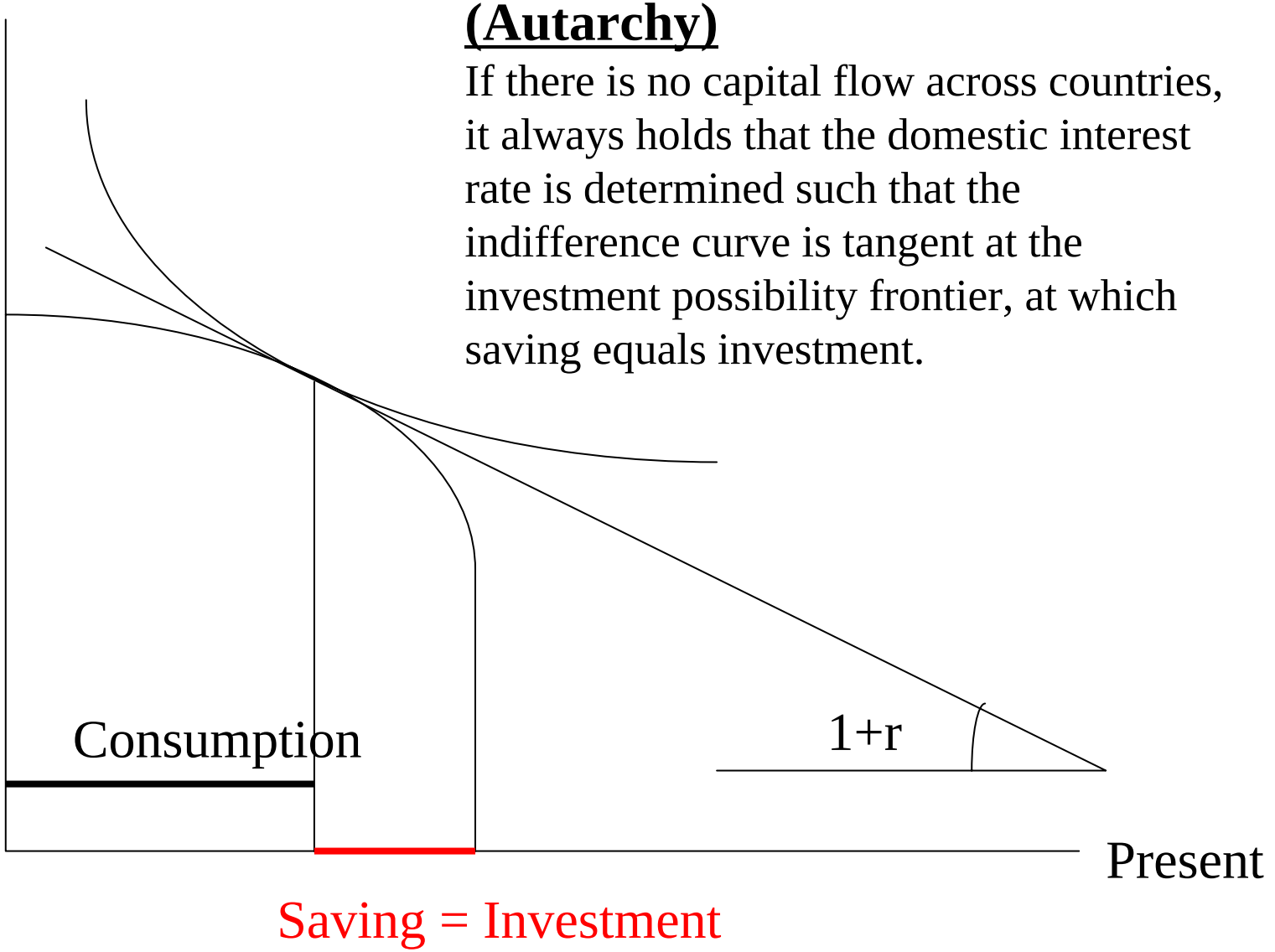
Without a decline in the international interest, the excess investment of the US would not be financed by the excess saving of Japan.

The effects of a technological slowdown in Japan

1. The world interest rate declines.
2. Investment increases in the US but decreases in Japan.
3. The US economy grows faster but the Japanese economy grows slower.
4. There are increases in both the US' current account deficit and the Japan's current account surplus.

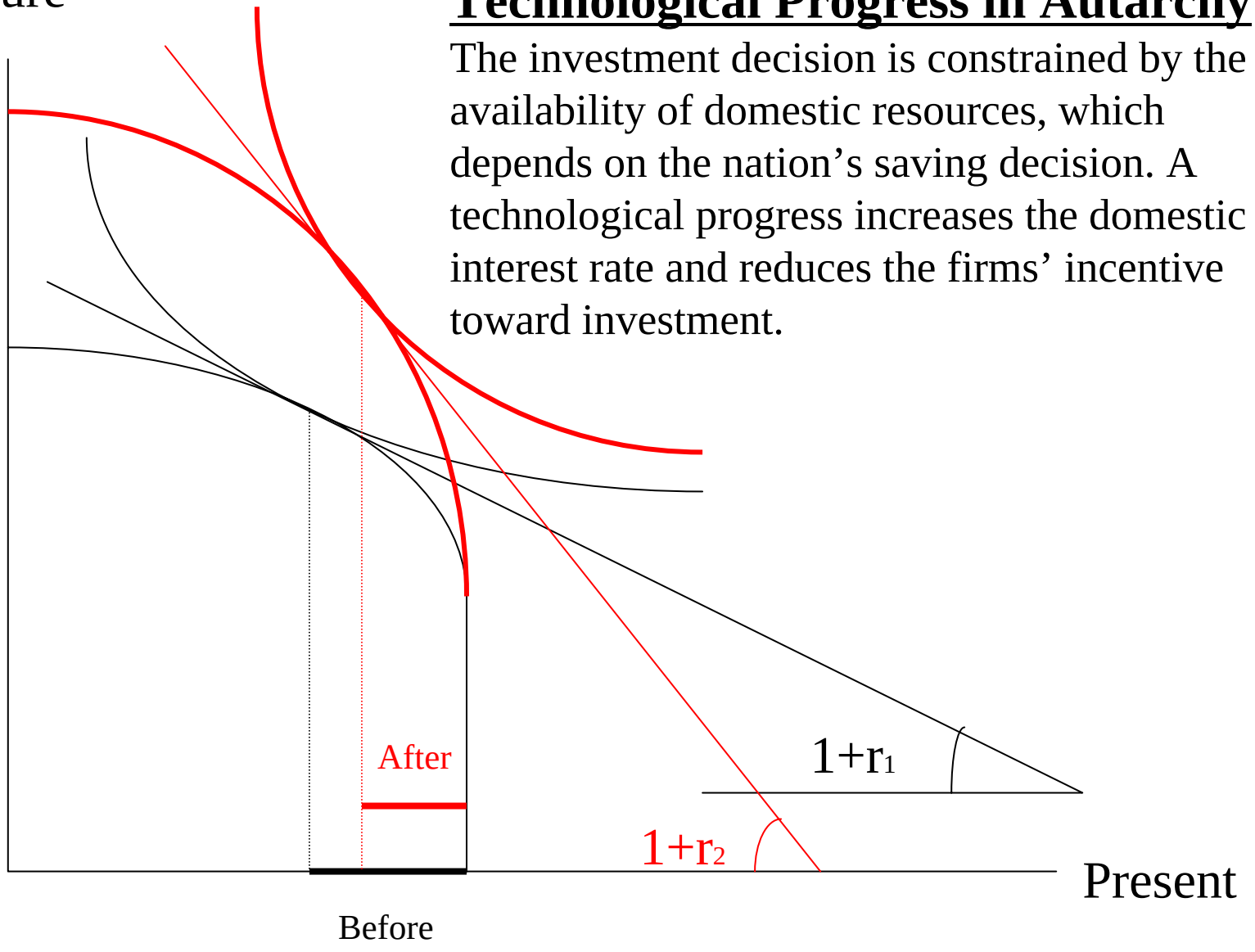
The Closed Economy (Autarchy)

If there is no capital flow across countries, it always holds that the domestic interest rate is determined such that the indifference curve is tangent at the investment possibility frontier, at which saving equals investment.



Technological Progress in Autarchy

The investment decision is constrained by the availability of domestic resources, which depends on the nation's saving decision. A technological progress increases the domestic interest rate and reduces the firms' incentive toward investment.



The Benefit of International Capital Flow

1. Under autarchy, a technological progress reduces the incentive to invest, due to a rise in the domestic interest rate.
2. The free capital flow across countries provides the sufficient funds to finance the investments driven by the technological progress, without an increase in the interest rate.
3. This is why the deregulation on international capital flow is crucial to the sustainability of economic growth of the developing economies.

The Asia Crisis

1. The Asia's economic growth has been mainly financed by the capital flow from abroad.
2. The strict regulation on international capital flow to avoid the currency instability may worsen the economic stagnation caused by the currency crises.

Questions

7. Country A has a large CA surplus, while country B has a large CA deficit. If there is a technological progress in country A, what will happen to the CAs of both the countries, and the world interest rate?
8. If the government of country A starts a huge expansion of government deficits, what will happen?
9. How do you interpret the “Twin Deficits “ of USA in1980s (and 2000s) under the Reagan (and Bush) Administration?