Exchange Rates and the Current Account

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CENTRAL to AMERICA'S ECONOMY™

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Really.

Who Am I?

- I am a research economist, not a forecaster.
  - My research is primarily on exchange rates.
- 3 kinds of economic communication:
  - Greek letter;
  - ups and downs;
  - popular economics.
- Economists are much better on why the past happened.
  - There is a reason for this.

Today's Topics

- ❖ Exchange rates
  - o Types of FX Regimes
  - o FX Determination: The Failure of Modeling and Forecasting.
  - o FX Determination: The Law of One Price and Purchasing Power Parity
  - o Exchange Rates and Trade

- ❖ The Current Account
  - o Trade deficits/current account deficits
  - o Trade in assets over time.
  - o The US current account deficit.

What is an Exchange Rate?

- An exchange rate is the relative price of monies.
- The price of a peso in terms of dollars or the price of a dollar in terms of pesos.
  - e.g., 10 pesos per dollar or 0.1 dollars per peso.

What Sorts of Exchange Rate Regimes Are There?

- Flexible Exchange Rates
  - The U.S. has flexible exchange rates. Neither the Treasury or the Federal Reserve is obligated to manage the money supply to maintain the value of the dollar.
- Fixed Exchange Rates
  - Countries whose international trade is very important to them frequently “fix” their exchange rates to reduce uncertainty in trade.

What Sorts of Exchange Rate Regimes Are There?

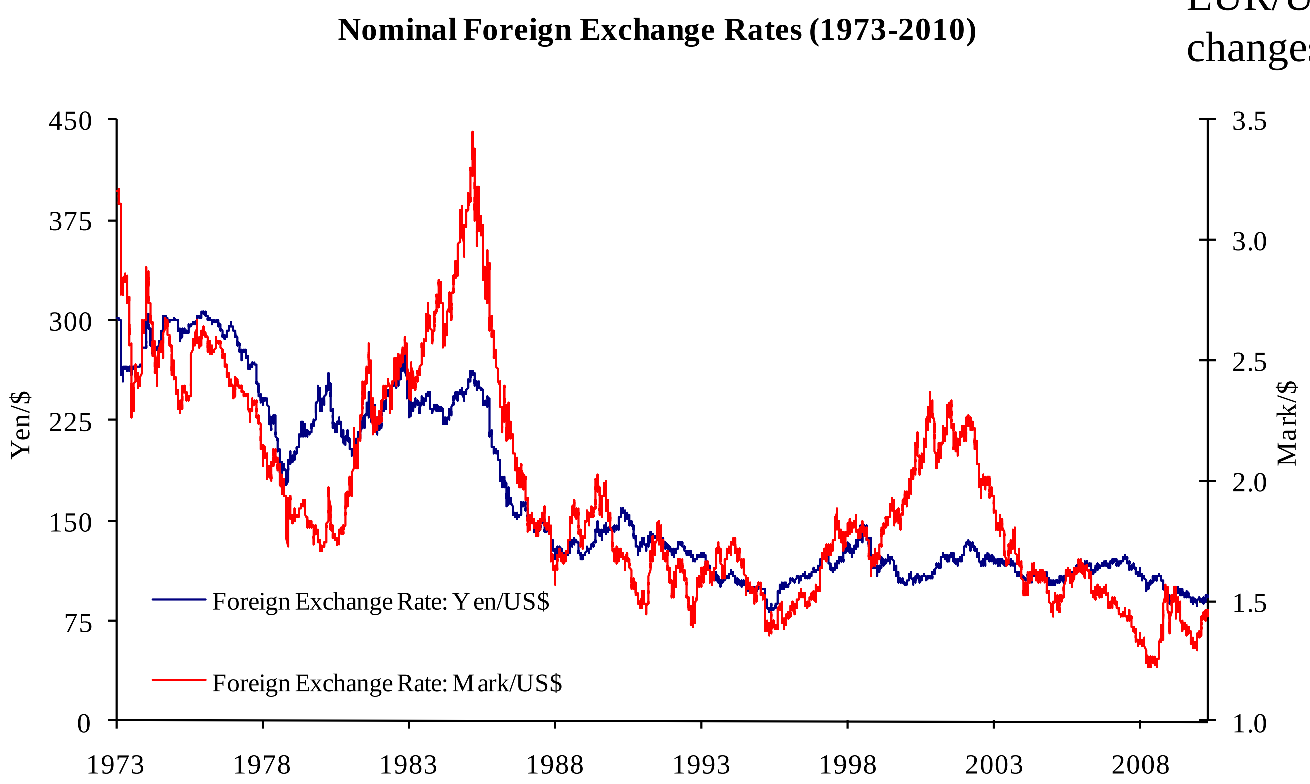
- Many smaller countries - like Mexico or Hong Kong - or countries that trade heavily with each other - like the E.U. nations - have fixed exchange rates.
- Fixed exchange rates require countries to manage their money supply to maintain the value of their currency.
  - More money lowers the value of the domestic currency, less money raises it.

What Sorts of Exchange Rate Regimes Are There?

- Since the U.S. has flexible exchange rates, we will focus on those today.
- The fundamentals of flexible exchange rates are useful to understanding fixed exchange rates.

How Are Exchange Rates Determined?

After January 1, 1999, the ersatz DEM/USD rate is constructed from EUR/USD % changes.



- Have you ever wondered how the dollar’s value is determined and why it moves the way it does?

The Efficient Market's Hypothesis

- The EMH: Traders don't leave money laying on the table.
  - Abnormal returns imply extra risk.
  - Very attractive idea.
- If investors are risk neutral, interest differentials should determine expected FX returns.
- Doesn't work well for floating currencies.

Forecasting FX: Meese and Rogoff

- Floating exchange rates appear to be only weakly connected to macro fundamentals.
- A big puzzle in international financial economics.

Forecasting FX: Meese and Rogoff

- Meese and Rogoff (1983) subjected monetary models to out-of-sample forecasting exercises.
  - Many, many permutations of data samples and econometric techniques.
  - Very little evidence of predictability from macro fundamentals.

How Are Exchange Rates Determined?

- The Law of One Price
  - The price of a good should be the same when expressed in a common currency.
    - If the price of a barrel of oil is 750 pesos in Mexico City and $75 in Dallas, then the price of a peso in terms of dollars should be 75/750 = $0.1.
  - What would happen if the exchange rate were not $0.1?
    - If it were less than 0.1 USD/NP, say 0.05 USD/NP, we would buy oil in Mexico City at 750 NP and sell it in Dallas for $75. We could then make an arbitrage profit by converting the $75 into (75/.05) = 1500 NP pesos.
    - We keep this up until the price differential disappears.
    - To purchase oil in Mexico, we would need pesos. These purchases would cause the peso to appreciate until it equaled $0.10

How Are Exchange Rates Determined?

– Suppose that the price of oil doubles to 1500 pesos per barrel in Mexico, what happens to the exchange rate?

  - Peso depreciates to reflect higher prices in Mexico. The price of a peso falls to \$75/\$1500 = \$0.05.
  - When Mexican prices double, the value of the peso tends to be cut in half, ceteris paribus.

– This is very important.

How Are Exchange Rates Determined?

- How well does the Law of One Price hold?
  - The Law of One Price holds very well for commodities such as oil, corn or gold.
  - Transportation costs, barriers to trade, differentiated goods and other factors will prevent the Law of One Price from holding for most goods.

How Are Exchange Rates Determined?

- Suppose the Law of One Price held for every price in the economy and that price indices were constructed with the same weights in each country, then the Law of One Price would hold for price indices like the CPI.
  - When we aggregate prices into a price index, we have to weight the prices by the importance of the good.

How Are Exchange Rates Determined?

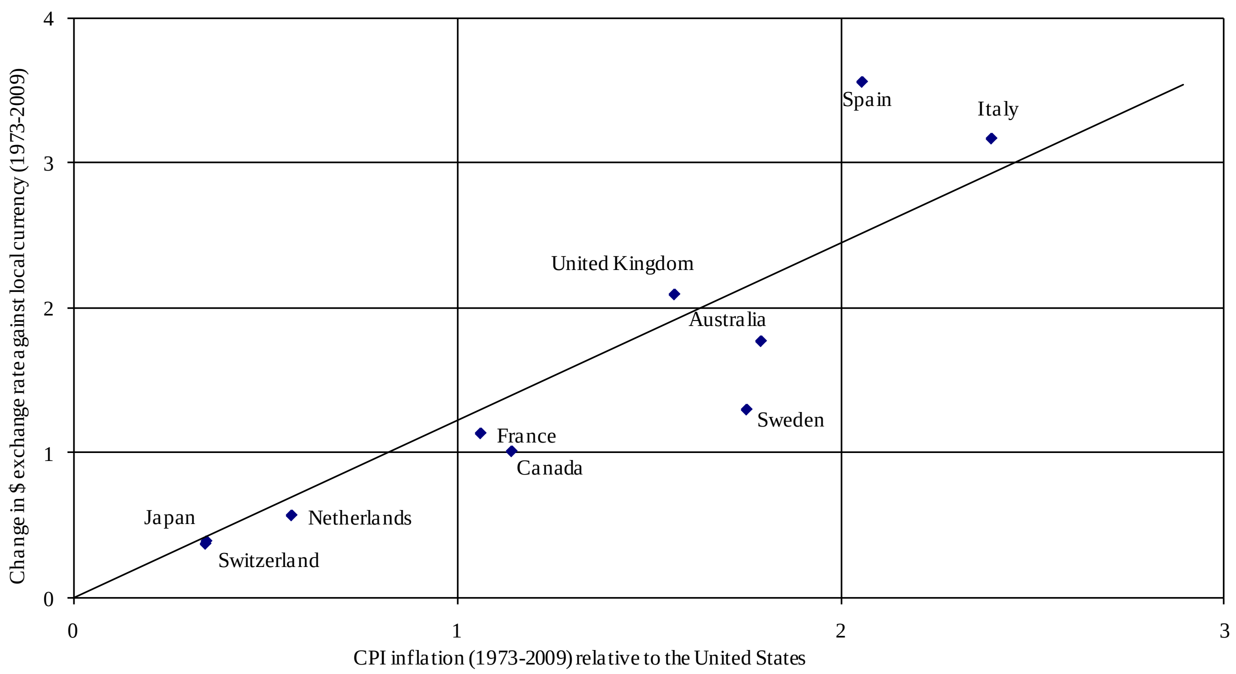
- The Law of One Price for a price index implies an idea called *Purchasing Power Parity*.
- Purchasing Power Parity suggests that exchange rate changes should reflect inflation differentials.
  - If inflation in Mexico exceeds that in the United States, the peso will depreciate to reflect the difference.
  - Why? If Mexican prices rise, people will not buy the more expensive Mexican goods; the peso will depreciate.

How Are Exchange Rates Determined?

How well does PPP hold?

– Pretty well over long periods, more than 5-10 years.

Exchange rates and inflation, 1973-2009



Key Points to Remember

- An exchange rate is the relative price of monies.
- Inflation determines the value of the dollar through Purchasing Power Parity (PPP) in the long run.
  - Countries with unusually high productivity also tend to see their currencies appreciate.
- Ceteris paribus, a weaker dollar tends to aid U.S. firms, improve the U.S. trade balance, but reduce the purchasing power of U.S. consumers.

What is a trade deficit?

- A trade deficit means that U.S. exports are less valuable than our imports.
  - The rest-of-the-world ships us more real goods and services than we ship them.
- Why would countries ship us more valuable goods & services than we ship them?
  - What's in it for them?

What is a trade deficit?

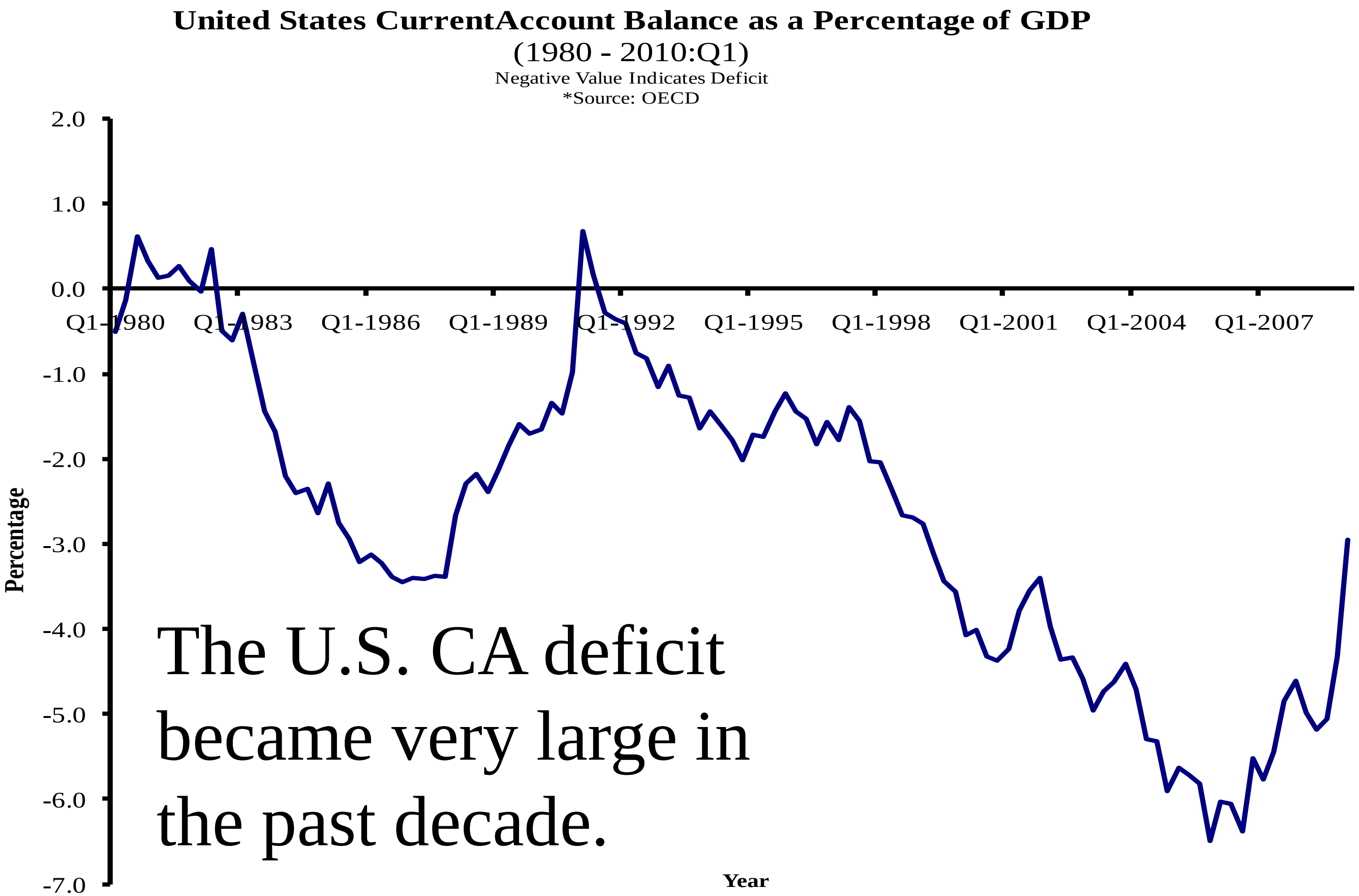
- Foreign countries are willing to do this because we give them *real* or *financial assets* in return. This is called "dissaving" or borrowing money.
- A trade deficit is an exchange of assets for goods and services. It is borrowing from abroad.
- Another way to think of it: It is trading intertemporally --- through time.

What is the current account?

- The *current account* (*CA*) measures trade in goods and services, net receipts on foreign investment, and unilateral transfers.
  - The CA is dominated by the *merchandise trade balance*.
- A *CA deficit* means that a country imports more goods and services than it exports.

The U.S. Current Account Balance

- The U.S. current account deficit is very large. What does this mean?



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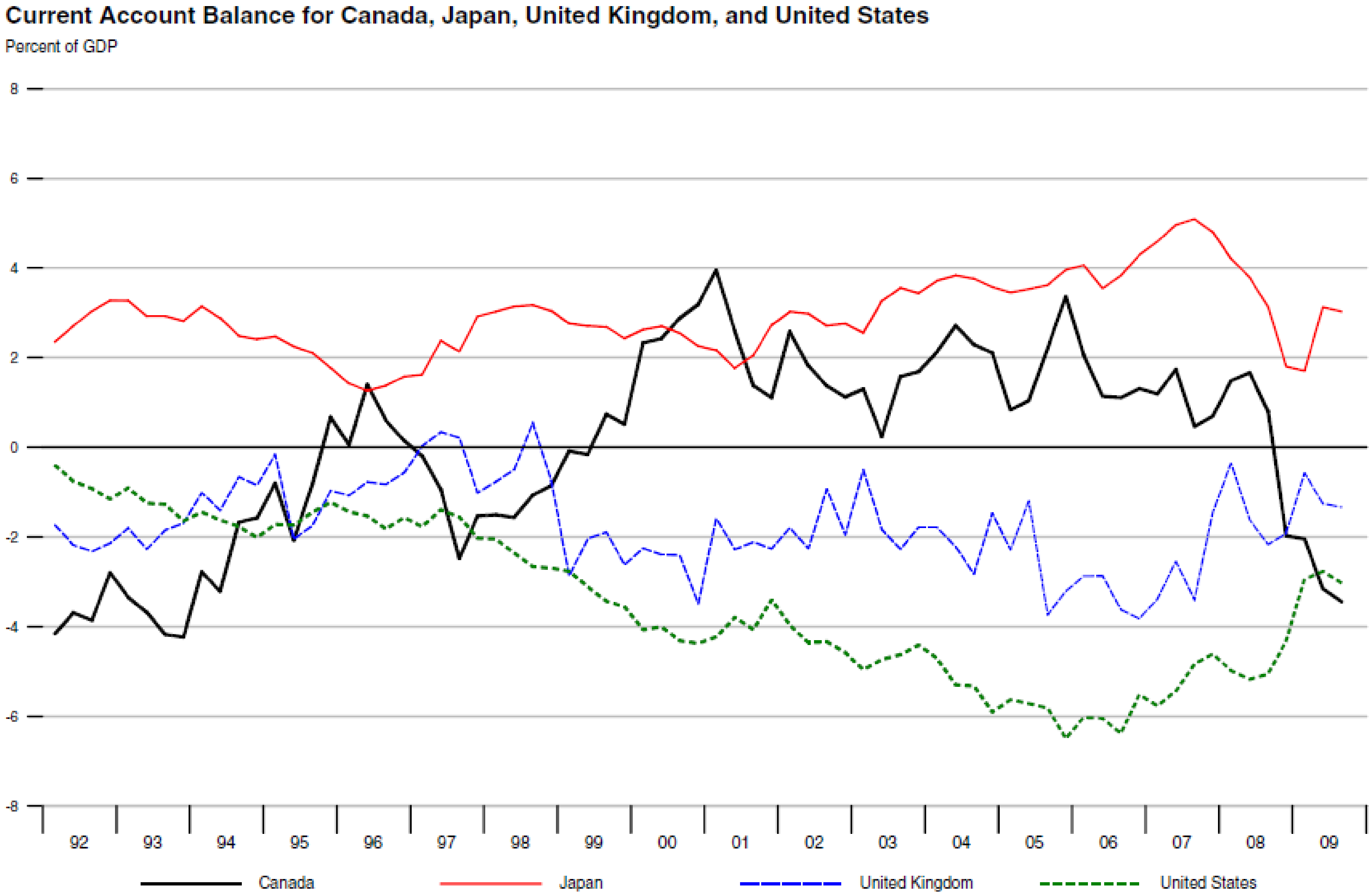
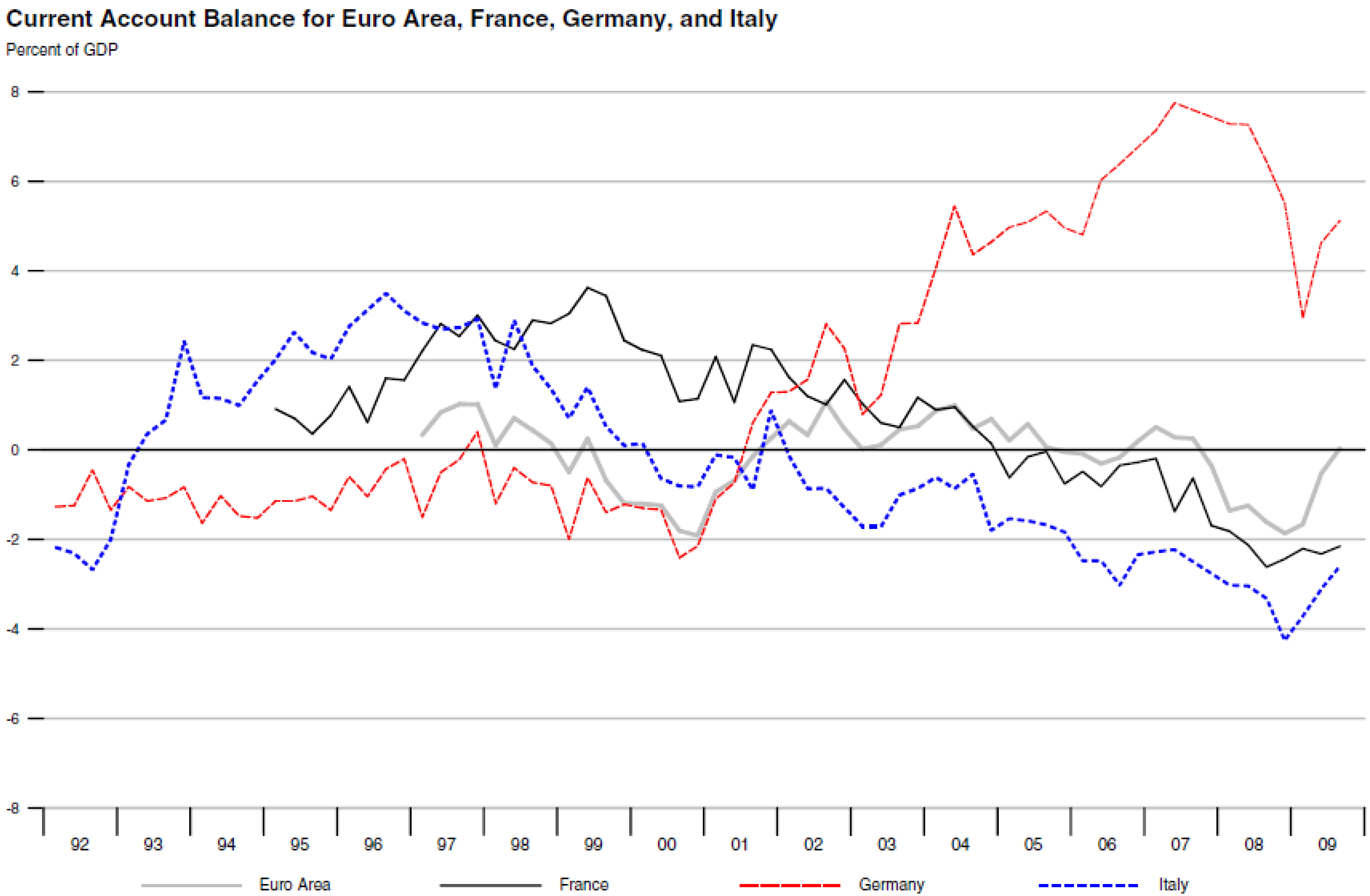
U.S. vs. G-7 current account deficits



U.S. vs. G-7 current account deficits



What drives CA deficits?

- Competitiveness?
  - Does a CA deficit reflect poor Goods/services?
- Trade barriers?
  - Does a CA deficit reflect trade barriers or currency manipulation?
- Oil imports?
- Savings/investment decisions

Savings/Investment and the CA

Another way to look at CA deficits. (Ignore the govt.)

Output = Consumption + Investment + Net exports

Output = Income

Income = Consumption + Investment + Net exports

Income − Consumption = Investment + Net exports

Savings = Income − Consumption

Savings − Investment = Net exports

Savings/Investment and the CA

- Anything that reduces savings and/or increases investment in the U.S. will raise the CA deficit.
- What might change savings/investment? (ceteris paribus)
- Changes in desired savings rates.
  — Demographics, perception of risk, legal changes.
- Government deficits (negative saving)
- Cyclical demand for investment goods.

Savings/Investment and the CA

- Government deficits: The "Twin Deficits"
- The negative relation between the CA balance and the Federal deficit is a "ceteris paribus" relation. We shouldn't expect it to hold unconditionally.
    - For example, a rising stock market might decrease the budget deficit while increasing the current account deficit through investment demand.

What doesn’t change S/I decisions?

- Changes in exchange rates.
  - Changes in prices are *endogenous*, they don’t change quantities. Both P and Q react to fundamental shocks through supply and demand.
- Changes in preferences, trade barriers, etc have very small effects on S/I decisions.
  - Changes in trade barriers/preferences will be offset through changes in exchange rates.

Can a CA deficit persist forever?

- Theoretically, there is no reason why a nation cannot run a CA deficit forever.
- The size of deficits is limited by expectations of claims on future income. (Can you pay it back?)
- In practice, countries have run persistent deficits, as long as they attracted foreign investment.
- The U.S. deficit is likely to decline further at some point.

How will the U.S. CA resolve?

- Will the U.S. experience an exchange rate crash like those in Mexico (1994) and Asia (1997)?
  - Probably not. The U.S. has a flexible exchange rate system and a fall in demand for U.S. assets will gradually reduce the value of the dollar.
  - A reduction in the CA deficit must be accompanied by a rise in S/I.

Is a CA deficit disastrous? Are we exporting jobs?

- If you buy a foreign-made car, do you put some Detroit autoworker out of a job?
- When Dell outsources a call center to India, does that put Americans out of work?
- If we could eliminate the CA deficit, how many Americans could be put to work?

Does a CA deficit export jobs?

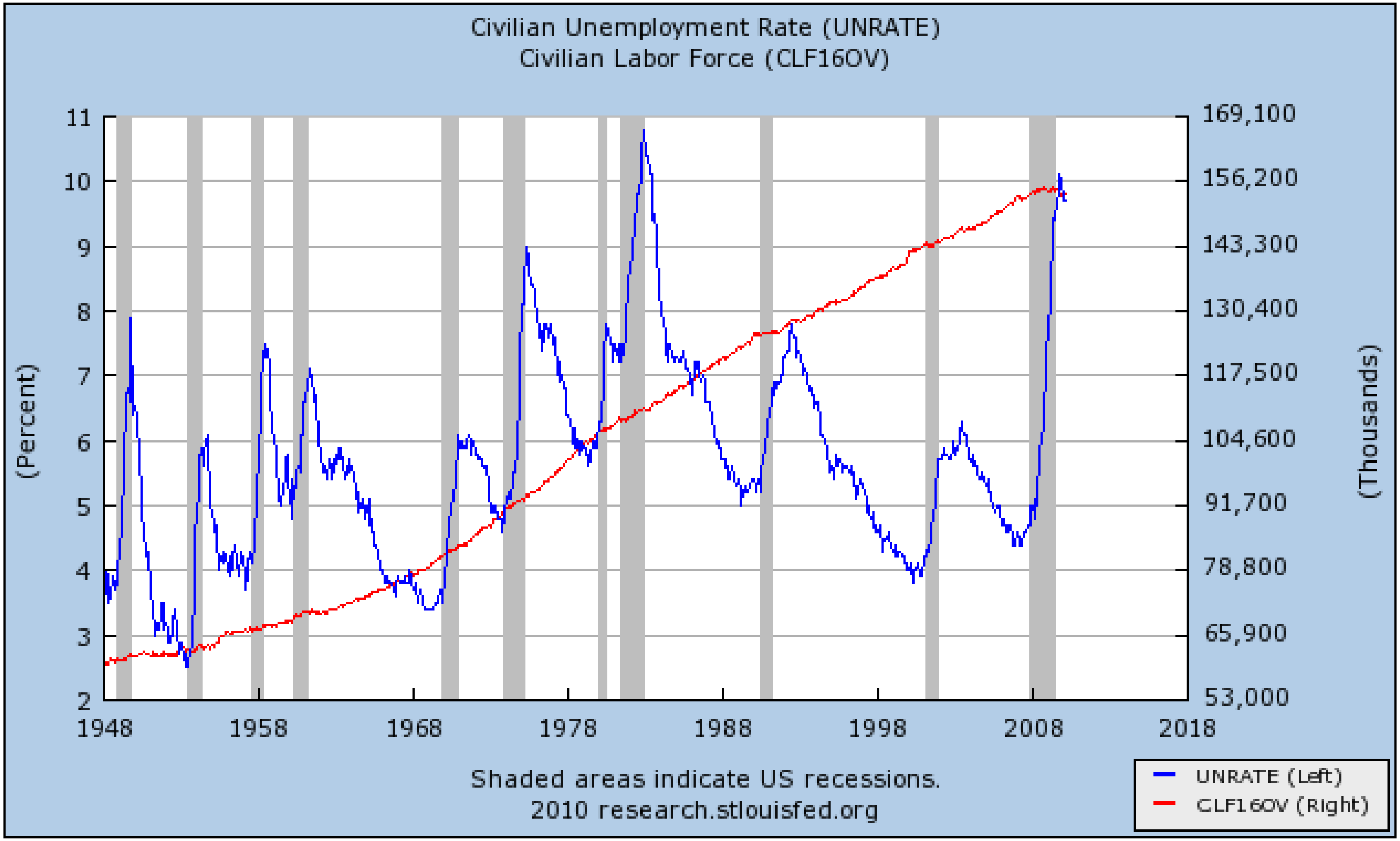
- When foreigners sell us goods, they must do one of two things with the money:
  - 1) Buy U.S. goods;
  - or 2) Buy U.S. real or financial assets.
- Either course of action creates about as many jobs as are “lost” by the imports.
- Trade can help or harm individuals, but—on net—it neither creates nor destroys jobs.

Does a CA deficit export jobs?

- To answer that question, we have to consider what determines unemployment.
- Question: What would happen to unemployment if the U.S. labor supply more than doubles in the next 50 years?
- Answer: A huge rise in trade in the last 65 years has not increased the average unemployment rate.
- In the absence of labor market frictions, like minimum wages, or related demographic changes labor supply determines employment in the long run.

Unemployment & labor supply

The U.S. unemployment rate 1948-2010.



Summary on CA deficits

- The U.S. is running a very large CA deficit.
  - That is, the U.S. is selling claims on future income. This might be good or bad.
- The CA deficit results from the fact that U.S. saving is less than U.S. investment.
- A "crash" is unlikely, but the level of the CA deficit will not persist.
- Current account deficits do not destroy net jobs.

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The End