Econ 340
Lecture 12
The Balance of Trade and International Transactions

Outline: The Balance of Trade and International Transactions
• What Is the Balance of Trade?
• What the Balance of Trade Does Not Mean
• International Transactions
  – Current Account
  – Financial Account
• What the Balance of Trade Does Mean
  – From Balance of Payments Accounting
  – From National Income Accounting

What Is It?
• Definition: Balance of Trade
  = Exports minus Imports
  – Defined for
  • Merchandise (i.e., goods)
    = "Balance on Merchandise Trade"
  • Merchandise plus services
    = "Balance on Goods and Services"
  – "Trade Surplus" = Bal of Trade > 0
  – "Trade Deficit" = Bal of Trade < 0
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What It Does Not Mean

• Common Misinterpretations
  – That a deficit means we are “losing money”
    • This was sort of true when
      – When
        » All money was gold (the Gold Standard), and
        » There were no international capital flows
      – Then imports > exports meant you were spending more gold than you were earning
  – Today there are capital flows
    – A country with imports > exports can
      » Borrow
      » Sell assets to foreigners

What It Does Not Mean

• Common Misinterpretations
  – That a deficit means we are “losing jobs”
    • It is true that
      – Imports are goods we don’t produce, and
      – Exports are goods we do produce
    • But whether an increase in imports means a loss of jobs depends on why imports went up
      – Often it is because more people are working, earning income, and buying more from abroad
What It Does Not Mean

• Common Misinterpretations
  – That a deficit means we are “losing jobs”
    • Scott draws a direct connection from exports to jobs gained and from imports to jobs lost
      – He assumes that imports somehow replace domestic production.
    – That is sometimes true, but mostly it is not
  • Griswold points out that the US economy has done best when the trade deficit was growing!
    – True, but that doesn’t mean that the trade deficit caused us to do well
      – Instead, high incomes led to higher imports

What It Does Not Mean

• Common Misinterpretations
  – That a deficit means other countries are misbehaving
    • Not at all, as we’ll see.

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International Transactions

• To understand the trade balance, it is necessary to consider all international transactions
  – Trade
  – Financial flows also
  – Transfer payments, i.e. gifts
    (this is small for U.S. but large for some developing countries: e.g., foreign aid and remittances)

International Transactions

• Transactions are divided into two* parts, called
  – Current Account
  – Financial Account

*There are also two other small items, not part of these two accounts, called
  – Capital Account
  – Statistical Discrepancy
We’ll mostly ignore these in this course

International Transactions

– Current Account
  • Trade in goods
  • Trade in services
  • Investment income
  • Unilateral transfers (i.e., gifts, foreign aid)

– Financial Account
  • Includes only changes in asset holdings
    (Let \( \Delta \) mean “change in”)
    • \( \Delta \) US ownership of assets abroad
    • \( \Delta \) foreign ownership of assets in US
International Transactions

• All transactions are recorded as either
  – Credits (+)
    ▪ If they correspond to payment into the country
      – E.g., exports, capital inflows
  or
  – Debits (−)
    ▪ If they correspond to payment out of the country
      – E.g., imports, capital outflows

• Balances
  – Balance of Trade
    = credits minus debits on trade transactions
      (merchandise only, or goods and services)
  – Balance on Current Account
    = credits minus debits on trade, investment income,
      and transfers
  – Balance on Financial Account
    = Also called net “capital inflows”

TABLE 9.3 The U.S. Balance of Payments, 2011

<table>
<thead>
<tr>
<th>Current Account</th>
<th></th>
<th>Financial Account</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$1,000 billion</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$2,000 billion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Imports</td>
<td>$2,000 billion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exports</td>
<td>$1,000 billion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Account</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$500 billion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment income gained</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment income received</td>
<td>$500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net current transfers</td>
<td>$500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistical discrepancy</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Financial Account</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistical discrepancy</td>
<td>$0</td>
</tr>
</tbody>
</table>

Balance of payments = current account + capital account + financial account

The financial and capital accounts measure capital inflows and outflows and are equal to the current account, with the sign reversed. The statistical discrepancy reflects the amount by which the measurements do not add up to the sum of the three accounts, with the sign reversed.
### TABLE 9.2 The U.S. Current Account Balance, 2011

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Goods and services</td>
<td>1,497</td>
</tr>
<tr>
<td>Exports of goods</td>
<td>1,497</td>
</tr>
<tr>
<td>Imports of goods</td>
<td>-2,236</td>
</tr>
<tr>
<td>Exports of services</td>
<td>668</td>
</tr>
<tr>
<td>Imports of services</td>
<td>-429</td>
</tr>
<tr>
<td>2. Investment income</td>
<td></td>
</tr>
<tr>
<td>Investment income received</td>
<td>779</td>
</tr>
<tr>
<td>Investment income paid</td>
<td>-517</td>
</tr>
<tr>
<td>1. Net outward transfers</td>
<td>-133</td>
</tr>
<tr>
<td>Current Account Balance</td>
<td>-473</td>
</tr>
<tr>
<td>Goods and services balance</td>
<td>-560</td>
</tr>
<tr>
<td>Memoranda</td>
<td></td>
</tr>
</tbody>
</table>

The U.S. current account deficit in 2011 was $473 billion. The deficit is largely the result of merchandise goods imports exceeding exports. The United States has surpluses in services and investment income.


### TABLE 9.4 Components of the U.S. Financial Account, 2011

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Net change in U.S. assets abroad</td>
<td>-396</td>
</tr>
<tr>
<td>(increase/outflow (−−−))</td>
<td></td>
</tr>
<tr>
<td>A. U.S. official reserve assets</td>
<td>-16</td>
</tr>
<tr>
<td>B. U.S. government assets, other than</td>
<td>-102</td>
</tr>
<tr>
<td>official reserve assets</td>
<td></td>
</tr>
<tr>
<td>C. U.S. private assets</td>
<td>228</td>
</tr>
<tr>
<td>2. Net change in foreign assets in</td>
<td>764</td>
</tr>
<tr>
<td>the United States</td>
<td></td>
</tr>
<tr>
<td>(increase/outflow (++)</td>
<td></td>
</tr>
<tr>
<td>A. Foreign official assets in the</td>
<td>165</td>
</tr>
<tr>
<td>United States</td>
<td></td>
</tr>
<tr>
<td>B. Other foreign assets in the United</td>
<td>-107</td>
</tr>
<tr>
<td>States</td>
<td></td>
</tr>
<tr>
<td>3. Net change in financial derivatives</td>
<td></td>
</tr>
</tbody>
</table>

There are six main categories of financial flows. Each of these categories can be further subdivided.


### TABLE 9.5 Private Flows in the U.S. Financial Account, 2011

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. U.S. private assets abroad, net (increase/outflow</td>
<td>-375</td>
</tr>
<tr>
<td>(−−−))</td>
<td></td>
</tr>
<tr>
<td>Subcomponent</td>
<td></td>
</tr>
<tr>
<td>A. Direct investment</td>
<td>-496</td>
</tr>
<tr>
<td>B. Foreign securities</td>
<td>-93</td>
</tr>
<tr>
<td>C. Loans to foreign firms, including banks</td>
<td>221</td>
</tr>
<tr>
<td>2. Foreign-owned assets in the United States, other</td>
<td>419</td>
</tr>
<tr>
<td>than official assets, net (increase/outflow (++)</td>
<td></td>
</tr>
<tr>
<td>Subcomponent</td>
<td></td>
</tr>
<tr>
<td>A. Direct investment</td>
<td>228</td>
</tr>
<tr>
<td>B. U.S. securities and equity</td>
<td>320</td>
</tr>
<tr>
<td>C. Loans to U.S. firms, including banks</td>
<td>271</td>
</tr>
<tr>
<td>3. Net change in financial derivatives</td>
<td>7</td>
</tr>
</tbody>
</table>

Private assets flows are the largest part of the financial account. Both private outflows and inflows are usually divided into three symmetrical subcomponents. The net change in the value of financial derivatives comprises the other major category of private flows.

FIGURE 9.1 U.S. Current Account Balances, 1960-2011

There are two periods of large current account deficits in the United States. The first lasted through most of the 1980s, while the second began in the early 1990s and continues today.


Current Account is mostly the Trade Balance, which deteriorated greatly from 1990 until 2005

International Transactions: Data
From OECD via FRED

More recently, from Survey of Current Business

US Balance on Current Account
Billions of dollars

Econ 345, Deardorff, Lecture 12: Trade Balance
Even more recently, from Survey of Current Business December 2016

International Transactions: Data

Chart 1. U.S. Current-Account Balance and Its Components
Quarterly balances from the current account:
- Balance on goods, services, and income + transfers net of inventory valuation adjustments
- Balance on primary income
- Balance on secondary income (net transfers)
- Balance on current account

Source: Survey of Current Business

US Export and Import Shares Since 1962
(Shaded strips are recessions)

Source: Survey of Current Business February 2013

Survey of Current Business
July 2016
$m.$

U.S. International Transactions

<table>
<thead>
<tr>
<th>2013</th>
<th>2015</th>
<th>Change 2015 to 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>I</td>
<td>N</td>
</tr>
</tbody>
</table>

Exports of goods and services and income receipts of all kinds
- Goods
- Services
- Secondary income (current period receipts of secondary income from the rest of the world)
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What the Trade Balance Does Mean

• From Balance of Payments Accounting
  – It must be true that credits and debits add up to zero
  • Reason: Every transaction, if known completely, involves two offsetting entries
    – Example 1: I import a book from a London bookstore (US debit) which deposits my payment into its NY bank account (US credit)
    – Example 2: Donald Trump (an American) borrows euros from a German (US credit) and exchanges them for dollars with an Italian who has sold stock in a US corporation (US debit)
    These are only samples; many other possibilities exist, but each must add to zero

What Does the Trade Balance Really Mean?

• From Balance of Payments Accounting
  – It must be true that credits and debits add up to zero
  – Therefore (ignoring the small “capital account” and “Statistical Discrepancy”),

\[
\text{Current Account Surplus} + \text{Financial Account Surplus} = 0
\]

What Does the Trade Balance Really Mean?

• From Balance of Payments Accounting
  – It follows that
    A current account deficit Implies a financial account surplus
    (and vice versa)
What Does the Trade Balance Really Mean?

• From Balance of Payments Accounting
  – Thus, a Trade Deficit
    (if it is not financed by investment income and transfers, which are also parts of the current account)
  implies that we are either
    • Borrowing from foreigners, or
    • Selling assets to foreigners

What Does the Trade Balance Really Mean?

• Thus the large and (until recently) growing current account deficit of the US, which we saw earlier, means that the US is selling off its assets and/or borrowing from foreigners
• Sure enough, look at the data…

![Graph of US Balance on Current Account](image.png)
What Does the Trade Balance Really Mean?

- Put this in perspective
  - US current account deficit reached about $700 b. per year. US population is about 300 m. So US was selling assets and/or borrowing about $2,300 per year per person.
  - US net investment position is approaching $3.5 trillion. So our net debt to foreigners is over $11,000 per person.
  - $3.5 trillion is a little over 1/4 of US GDP; on average we each owe about 3 months income to foreigners.
    - And it’s growing.
  - (A student points out, correctly, that much of this debt is private, and therefore is not the responsibility to most of the population. Only the portion that is government debt deserves to be spoken of as I do in this slide.)

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What Does the Trade Balance **Really** Mean?

- From National Income Accounting
  - Recall from Econ 102
    - GDP = Output = Income = \( Y \)
  - Output:
    \[ Y = C + I + (X - M) \]
  - Income:
    \[ Y = C + S \]
  - Therefore
    \[ X - M = S - I \]
  - Where
    - \( C \) = Consumption
    - \( I \) = Investment
    - \( X \) = Exports
    - \( M \) = Imports
    - \( S \) = Savings

What Does the Trade Balance **Really** Mean?

- From National Income Accounting
  - Thus, since \( X - M = S - I \)
    - Trade surplus \( \Rightarrow \) savings > investment
    - Trade deficit \( \Rightarrow \) savings < investment
  - If we are not saving enough to finance investment, how do we pay for it?
    - By borrowing from abroad, or
    - By selling assets

What Does the Trade Balance **Really** Mean?

- From National Income Accounting (This time with government)
  - Even more simply
    \[ Y = C + I + G + (X - M) \]
  - implies
    \[ X - M = Y - (C + I + G) \]
What Does the Trade Balance Really Mean?
• From National Income Accounting
  \[(X - M) = Y - (C + I + G)\]
  - So a trade deficit
  \[(X - M) < 0\]
  means that we are spending
  \((C + I + G)\)
  more than our income \(Y\)

What Does the Trade Balance Really Mean?
• Therefore, in spite of its name, and it’s definition, the trade balance
  – Is not really about trade, which is just the symptom
  – It is about whether we are living within our means
• When is a trade deficit good?
  – When the country (like a young person) is investing for the future (like a successfully developing country)
  – Not when it is going into debt just to finance current consumption (like the US)

Sample Trade Surpluses & Deficits

<table>
<thead>
<tr>
<th>Country</th>
<th>(Exports − Imports) / GDP</th>
<th>2007</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>+1.5%</td>
<td>+0.8%</td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>−0.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>+8.8%</td>
<td>−6.1%</td>
<td></td>
</tr>
<tr>
<td>Costa Rica</td>
<td>−4.8%</td>
<td>−10.7%</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>+7.1%</td>
<td>+9.2%</td>
<td></td>
</tr>
<tr>
<td>Greece</td>
<td>−12.0%</td>
<td>−11.2%</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>−4.1%</td>
<td>−6.9%</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>+1.7%</td>
<td>−0.03%</td>
<td></td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>+27.0%</td>
<td>+10.4%</td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>−5.1%</td>
<td>−4.2%</td>
<td></td>
</tr>
</tbody>
</table>

Source: 2007, IMF; 2015, CIA World Fact Book (est)
Implications of the US Trade Deficit

• Who, in the US, is doing this?
  - Partly it has been the US government, running a deficit due to
    • Tax cuts
    • War
    • Stimulus
  - But it is also due to falling private saving.

• Who, abroad, is financing this?
  - Mostly foreign governments & central banks

• How does US indebtedness compare to other countries?
  - Edwards says
    • It reached 29% of GDP in 2004
    • No other large industrial country has ever done this
    • (By my calculation from IMF data, it was 18% in 2007. I don’t know whether I was defining this the same as Edwards.)
Sample Foreign Net Assets

<table>
<thead>
<tr>
<th>Country</th>
<th>Sample Foreign Net Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>39%</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>176%</td>
</tr>
<tr>
<td>China</td>
<td>302%</td>
</tr>
<tr>
<td>India</td>
<td>6%</td>
</tr>
<tr>
<td>Japan</td>
<td>49%</td>
</tr>
<tr>
<td>United States</td>
<td>-18%</td>
</tr>
</tbody>
</table>

Implications of the US Trade Deficit

- **Is the U.S. Deficit Sustainable?**
  - Buffett (in 2003) says NO, as others will cease to be willing to lend to us
  - Edwards (in 2006) assumes lending will continue, but says dollar will depreciate by 21-28%, and cause economic slowdown
  - Some say this is sustainable:
    - This is a “balance” between US dis-saving and rest of world saving
    - US has comparative advantage in “providing wealth storage facilities”

- **Is the U.S. deficit a problem?**
  - Mankiw says no.
    - It’s a reflection of
      - The attractiveness of the US as a destination for investment
      - Strength of the US economy
    - Trump’s policies of deregulation, tax cuts, and spending will increase it (and that’s OK)
    - An increase in import tariffs would just cause
      - The US dollar to appreciate, and
      - Exports to fall
Global Imbalances

- This refers to
  - Large current account deficits by US and others together with
  - Large current account surpluses by China and others

Next Lecture (after Break)

- Exchange Rates
  - What they are
  - What determines them
  - Simple theories of exchange rates