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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Common Misinterpretations
- That a deficit means we are “losing money”
  - This was sort of true 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, gold was flowing out.
- Today there are capital flows
  - A country with imports > exports can
    - Borrow
    - Sell assets to foreigners

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 Δ mean “change in”)
  • Δ US ownership of assets abroad
  • Δ 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

International Transactions

- 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
(Gerber 6th ed.)

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

<table>
<thead>
<tr>
<th>Current Account</th>
<th>Capital Account</th>
<th>Financial Account</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Exports</td>
<td>2. Investment income</td>
<td>3. Net change in foreign assets</td>
</tr>
<tr>
<td>2. Imports</td>
<td>Investment income received</td>
<td>in the United States</td>
</tr>
<tr>
<td>4. Balance on current account, net</td>
<td>-2</td>
<td>5. Net change in U.S. assets abroad (onshore/offshore (−))</td>
</tr>
<tr>
<td>6. Statistical discrepancy</td>
<td>80</td>
<td>7. Other items</td>
</tr>
<tr>
<td>Balance on capital and financial accounts</td>
<td>545</td>
<td>2,445</td>
</tr>
</tbody>
</table>

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 transactions do not add up to be a multiple of the three accounts with the sign reversed.

Source: U.S. Department of Commerce Bureau of Economic Analysis

Note: All data are in billions of dollars.
TABLE 9.2  The U.S. Current Account Balance, 2011

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Goods and services</td>
<td>-1,897</td>
</tr>
<tr>
<td>Exports of goods</td>
<td>698</td>
</tr>
<tr>
<td>Imports of goods</td>
<td>-2,236</td>
</tr>
<tr>
<td>Imports of services</td>
<td>-429</td>
</tr>
<tr>
<td>2. Investment income</td>
<td>738</td>
</tr>
<tr>
<td>Investment income received</td>
<td>-517</td>
</tr>
<tr>
<td>Investment income paid</td>
<td></td>
</tr>
<tr>
<td>3. Net unilateral transfers</td>
<td>-115</td>
</tr>
<tr>
<td>Memoranda</td>
<td></td>
</tr>
<tr>
<td>Goods and services balance</td>
<td>-560</td>
</tr>
<tr>
<td>Current Account Balance</td>
<td>-673</td>
</tr>
</tbody>
</table>

The U.S. current account deficit in 2011 was $673 billion. The deficit is largely the result of merchandise goods imports exceeding exports. The United States has surpluses in services and investment income.


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(Textbook Data)

- The slides above, with data from 2011, are from Gerber 6th edition
- I also have Gerber's 7th edition, with data from 2014 – the next 2 slides
- But they are reported differently and much harder to understand (in my opinion)
- So I will go back to the 2011 data after the next two slides

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TABLE 9.3  The U.S. Balance of Payments, 2014

<table>
<thead>
<tr>
<th>Components</th>
<th>Billions of dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Balance of Payments, 2014</td>
<td></td>
</tr>
<tr>
<td>1. Current account balance</td>
<td>-390</td>
</tr>
<tr>
<td>2. Capital account balance</td>
<td>0</td>
</tr>
<tr>
<td>3. Financial account</td>
<td></td>
</tr>
<tr>
<td>3a. Net acquisition of financial assets</td>
<td>792</td>
</tr>
<tr>
<td>3b. Net incurrence of financial assets</td>
<td>977</td>
</tr>
<tr>
<td>3c. Net change in financial derivatives</td>
<td>-54</td>
</tr>
<tr>
<td>4. Statistical discrepancy</td>
<td>151</td>
</tr>
<tr>
<td>5. Memoranda</td>
<td></td>
</tr>
<tr>
<td>5a. Balance on current and capital accounts (1+2)</td>
<td>-390</td>
</tr>
<tr>
<td>5b. Balance on financial account (3a+3b+3c)</td>
<td>-239</td>
</tr>
</tbody>
</table>
The Current Account (5 of 6)

<table>
<thead>
<tr>
<th>United States Current Account, 2014</th>
<th>Billions of dollars, 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Goods and services exports (credit) (1a + 1b)</td>
<td>2,343</td>
</tr>
<tr>
<td>1a. Goods exports</td>
<td>1,633</td>
</tr>
<tr>
<td>1b. Services exports</td>
<td>711</td>
</tr>
<tr>
<td>2. Primary income receipts (credit) (2a + 2b)</td>
<td>823</td>
</tr>
<tr>
<td>2a. Investment income received</td>
<td>816</td>
</tr>
<tr>
<td>2b. Compensation of employees received</td>
<td>7</td>
</tr>
<tr>
<td>3. Secondary income receipts (credit)</td>
<td>140</td>
</tr>
<tr>
<td>4. Goods and services imports (debit) (4a + 4b)</td>
<td>2,852</td>
</tr>
<tr>
<td>4a. Goods imports</td>
<td>2,374</td>
</tr>
<tr>
<td>4b. Services imports</td>
<td>477</td>
</tr>
<tr>
<td>5. Primary income paid (debit) (5a + 5b)</td>
<td>585</td>
</tr>
<tr>
<td>5a. Investment income paid</td>
<td>569</td>
</tr>
<tr>
<td>5b. Compensation of employees paid</td>
<td>16</td>
</tr>
<tr>
<td>6. Secondary income payments (debit)</td>
<td>250</td>
</tr>
<tr>
<td>7. Current account balance (1+2+3-4-5-6)</td>
<td>-390</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>Billions of Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Net change in U.S. assets abroad (increase/outflow (+))</td>
<td>-396</td>
</tr>
<tr>
<td>A. U.S. official reserve assets</td>
<td>-46</td>
</tr>
<tr>
<td>B. U.S. government assets, other than official reserve assets</td>
<td>-102</td>
</tr>
<tr>
<td>C. U.S. private assets</td>
<td>258</td>
</tr>
<tr>
<td>2. Net change in foreign assets in the United States (increase/outflow (+))</td>
<td>764</td>
</tr>
<tr>
<td>A. Foreign official assets in the United States</td>
<td>165</td>
</tr>
<tr>
<td>B. Other foreign assets in the United States</td>
<td>517</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></th>
<th>Billions of Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. U.S. private assets abroad, net (increase/outflow (+))</td>
<td>-772</td>
</tr>
<tr>
<td>Subcomponents</td>
<td></td>
</tr>
<tr>
<td>A. Direct investment</td>
<td>-469</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 than official assets, net (increase/outflow (+))</td>
<td>419</td>
</tr>
<tr>
<td>Subcomponents</td>
<td></td>
</tr>
<tr>
<td>A. Direct investment</td>
<td>238</td>
</tr>
<tr>
<td>B. U.S. securities and warranty</td>
<td>120</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.

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

The Current Account (6 of 6)

International Transactions: Data
From OECD via FRED
Grey shaded strips are recessions. Note that deficits tend to:
• Rise in booms
• Fall in recessions

Econ 340: Deardorff, Lecture 12: Trade Balance
More recently, from Survey of Current Business, with details

Chart 1. U.S. Current-Account Balance and Its Components

International Transactions: Data

US Export and Import Shares Since 1962

Source: Survey of Current Business February 2013
### U.S. International Transactions

#### Current Account

<table>
<thead>
<tr>
<th>Line</th>
<th>Description</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Exports of goods and services and income receipts (credits)</td>
<td>$3,453,235</td>
<td>$3,701,634</td>
</tr>
<tr>
<td>2</td>
<td>Imports of goods and services</td>
<td>$2,361,072</td>
<td>$2,560,706</td>
</tr>
<tr>
<td>3</td>
<td>Services</td>
<td>$1,633,350</td>
<td>$1,872,321</td>
</tr>
<tr>
<td>4</td>
<td>Primary income receipts</td>
<td>$787,469</td>
<td>$688,405</td>
</tr>
<tr>
<td>5</td>
<td>Investment income</td>
<td>$2,218,118</td>
<td>$1,062,262</td>
</tr>
<tr>
<td>6</td>
<td>Compensation of employees</td>
<td>$2,537,816</td>
<td>$1,053,851</td>
</tr>
<tr>
<td>7</td>
<td>Secondary income (current transfer) receipts</td>
<td>$154,069</td>
<td>$140,576</td>
</tr>
<tr>
<td>8</td>
<td>Imports of goods and services and income payments (debit)</td>
<td>$9,882,380</td>
<td>$1,491,164</td>
</tr>
<tr>
<td>9</td>
<td>Goods</td>
<td>$2,693,345</td>
<td>$3,122,802</td>
</tr>
<tr>
<td>10</td>
<td>Services</td>
<td>$340,470</td>
<td>$283,601</td>
</tr>
<tr>
<td>11</td>
<td>Primary income payments</td>
<td>$706,884</td>
<td>$816,098</td>
</tr>
<tr>
<td>12</td>
<td>Investment income</td>
<td>$457,896</td>
<td>$785,820</td>
</tr>
<tr>
<td>13</td>
<td>Compensation of employees</td>
<td>$18,667</td>
<td>$20,246</td>
</tr>
<tr>
<td>14</td>
<td>Secondary income (current transfer) payments</td>
<td>$272,645</td>
<td>$291,237</td>
</tr>
</tbody>
</table>

#### Financial Account

<table>
<thead>
<tr>
<th>Line</th>
<th>Description</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>Net U.S. acquisition of financial assets excluding financial derivatives (net increase in assets / financial surplus (+))</td>
<td>$1,182,744</td>
<td>$301,614</td>
</tr>
<tr>
<td>20</td>
<td>Real estate assets</td>
<td>$376,202</td>
<td>$8,403</td>
</tr>
<tr>
<td>21</td>
<td>Portfolio investment assets</td>
<td>$546,495</td>
<td>$210,350</td>
</tr>
<tr>
<td>22</td>
<td>Other investment assets</td>
<td>$210,652</td>
<td>$1,598,928</td>
</tr>
<tr>
<td>23</td>
<td>Reserve assets</td>
<td>$1,093</td>
<td>$4,869</td>
</tr>
<tr>
<td>24</td>
<td>Net U.S. incurrence of liabilities excluding financial derivatives (net increase in liabilities / financial deficit (+))</td>
<td>$1,537,683</td>
<td>$800,813</td>
</tr>
<tr>
<td>25</td>
<td>Real estate liabilities</td>
<td>$544,400</td>
<td>$267,016</td>
</tr>
<tr>
<td>26</td>
<td>Portfolio investment liabilities</td>
<td>$756,182</td>
<td>$520,089</td>
</tr>
<tr>
<td>27</td>
<td>Other investment liabilities</td>
<td>$756,182</td>
<td>$218,824</td>
</tr>
<tr>
<td>28</td>
<td>Financial derivatives other than reserves, net transactions /</td>
<td>$23,074</td>
<td>$20,246</td>
</tr>
</tbody>
</table>

#### Balances

<table>
<thead>
<tr>
<th>Line</th>
<th>Description</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>Balance on current account (Line 1 less line 9) / 4</td>
<td>$-488,142</td>
<td>$-488,472</td>
</tr>
<tr>
<td>31</td>
<td>Balance on goods and services (Line 2 less line 10)</td>
<td>$-502,277</td>
<td>$-622,106</td>
</tr>
<tr>
<td>32</td>
<td>Balance on goods (Line 3 less line 11)</td>
<td>$-807,459</td>
<td>$-881,320</td>
</tr>
<tr>
<td>33</td>
<td>Balance on services (Line 4 less line 12)</td>
<td>$250,000</td>
<td>$249,214</td>
</tr>
<tr>
<td>34</td>
<td>Balance on primary income (Line 5 less line 13)</td>
<td>$221,751</td>
<td>$243,395</td>
</tr>
<tr>
<td>35</td>
<td>Balance on secondary income (Line 6 less line 14)</td>
<td>$118,997</td>
<td>$118,661</td>
</tr>
</tbody>
</table>
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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 (US debit) from a London bookstore 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 usually 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…
What Does the Trade Balance Really Mean?

- Put this in perspective
  - US current account deficit reached about $700 billion per year. US population is about 300 million. So US was selling assets and/or borrowing about $2,300 per year per person. (Less now.)
  - US net investment position is over $9 trillion. So our net debt to foreigners is over $30,000 per person.
  - $9 trillion is about 45% of US GDP; so on average each of us owes over 5 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 of most of the population. Only the portion that is government debt deserves to be spoken of as I do in this slide. And much of that is held by Americans.)
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What Does the Trade Balance Really Mean?

- From National Income Accounting
  (I’ll do this first without government)
  - 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\textbf{ Really Mean?}

• From National Income Accounting
  (This time with government)
  – Even more simply
    \[ Y = C + I + G + (X - M) \]
  – implies
    \[ X - M = Y - (C + I + G) \]
Sample Trade Surpluses & Deficits

<table>
<thead>
<tr>
<th>Country</th>
<th>2007</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>+1.5%</td>
<td>+0.8%</td>
</tr>
<tr>
<td>Canada</td>
<td>−0.8%</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>+8.8%</td>
<td>+6.1%</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>−4.8%</td>
<td>−10.7%</td>
</tr>
<tr>
<td>Germany</td>
<td>+7.1%</td>
<td>+9.2%</td>
</tr>
<tr>
<td>Greece</td>
<td>−12.0%</td>
<td>−11.2%</td>
</tr>
<tr>
<td>India</td>
<td>−4.1%</td>
<td>−6.9%</td>
</tr>
<tr>
<td>Japan</td>
<td>+1.7%</td>
<td>−0.03%</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>+27.0%</td>
<td>+10.4%</td>
</tr>
<tr>
<td>United States</td>
<td>−5.1%</td>
<td>−4.2%</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 (or was) financing this?
  ° Mostly foreign governments & central banks

Figure 2: Foreign governments finance three-quarters of U.S. external deficit
Implications of the US Trade Deficit

• Who, abroad, has been financing this?

![Graph showing foreign official and private investment positions in the United States, 1999-2015.]

Source: Department of Commerce

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
  – 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"

Implications of the US Trade Deficit

• 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, he says)
    • An increase in import tariffs would just cause
      – The US dollar to appreciate, and
      – Exports to fall
Implications of the US Trade Deficit

- Can trade policy reduce the trade deficit?
  - Obstfeld (was Director of IMF Research) says no
    - Attempts to reduce it are like a game of “whack-a-mole”
      - If we reduce imports of one thing or from one place, imports of or from another will rise, and/or exports will fall
      - Example: Tariff to reduce imports of aluminum will reduce our exports of aircraft
    - Since US is at full employment, even if we hire more labor in one sector, we’ll have to employ less in another

Global Imbalances

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

Global Imbalances

- What can be done to change these imbalances?
    - These won’t change spending
      - See Mankiw
  - What’s needed is for both
    - US to spend less, and
    - China to spend more
  - Porter argues for an international agreement to reduce the value of the US dollar
    - This was done in the “Plaza Accord” of 1985, and it worked
    - It’s not clear that it would work today
Next Lecture

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