

Lecture 2

- M&I 1: Why bother with Money?
- M&B 3: History of US Monetary Standard

Money and Inflation, Ch. 1: Why Bother with Money?

Barter (Direct Exchange):

Mutually advantageous direct exchange of commodities or services

Monetary (*Indirect*) Exchange:

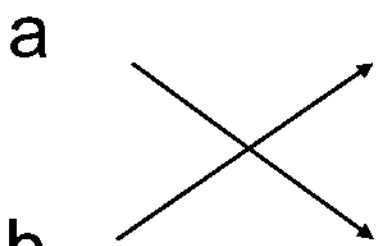
Exchange of less desired commodities or services for more desired commodities etc by means of the acquisition of, and then disposal of, an *even less desired* commodity than is originally given up.

Direct Exchange (Barter)

Person	Preferences	Initial
		Endowment
A	$b \succ a$	a
B	$a \succ b$	b

Direct Exchange (Barter)

Person	Preferences	Initial Endowment	Final Position
A	$b \succ a$	a	b
B	$a \succ b$	b	a



A and B both better off, without using money

Why bother with money?

In a more complex economy, direct exchange may be incapable of achieving all (or even most) mutually beneficial exchanges.

The Possible Impossibility of Barter

Person, preferences	Initial Endowment
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A $b \succ a \succ c$	a
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B $c \succ b \succ a$	b
--------------------------	---

C $a \succ c \succ b$	c
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No barter is possible in this 3-person economy!

Indirect (Monetary) Exchange

Person, preferences	Initial Endowment
------------------------	----------------------

A $b \succ a \succ c$	a
---------------------------------	-----

B $c \succ b \succ a$	b
---------------------------------	-----

C $a \succ c \succ b$	c
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A uses c as Money

Step I: A *talks* with B, *learns* B will trade b for c

Step II:

Step III:

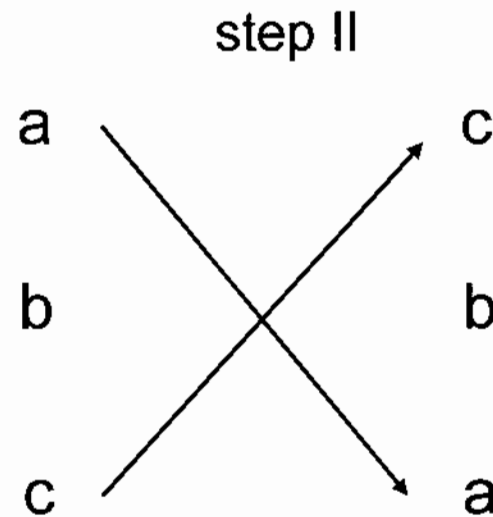
Indirect (Monetary) Exchange

Person, preferences	Initial Endowment	Intermediate Position
------------------------	----------------------	--------------------------

A
 $b \succ a \succ c$

B
 $c \succ b \succ a$

C
 $a \succ c \succ b$



A uses c as Money

Step I: *A talks with B, learns B will trade b for c*

Step II: *A trades a for c with C*

Step III:

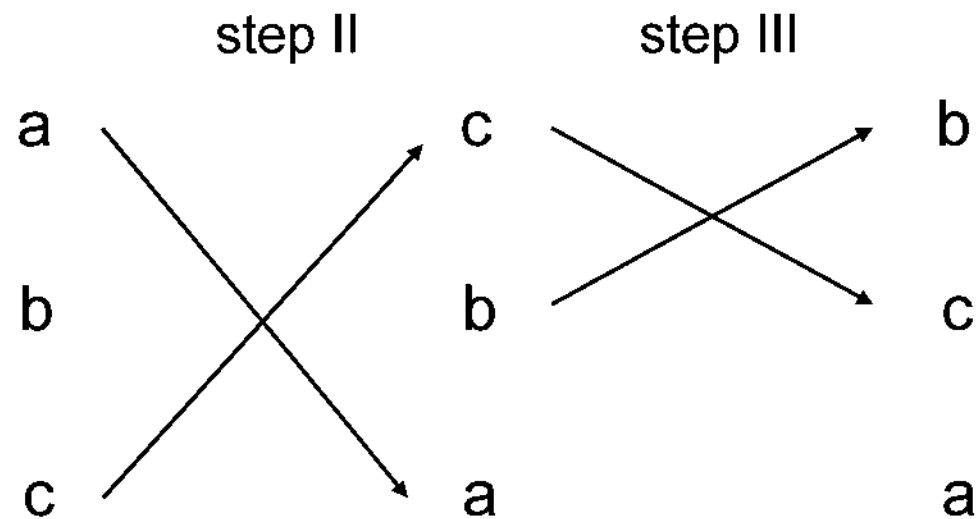
Indirect (Monetary) Exchange

Person, preferences	Initial Endowment	Intermediate Position	Final Position
------------------------	----------------------	--------------------------	-------------------

A
 $b \succ a \succ c$

B
 $c \succ b \succ a$

C
 $a \succ c \succ b$



A uses *c* as Money

Step I: A talks with B, learns B will trade *b* for *c*

Step II: A trades *a* for *c* with C

Step III: A trades *c* for *b* with B

This example shows us that

- Purchasing power of M must be ascertained *before* it is accepted (Step I).
- M must be held for a while as M (between steps II and III). This creates a *demand for M* per se.

- In theory, *any* good could serve as M.
- However, one good will tend to be adopted, by contagion, as common M. (Like language.)
- In practice, it is desirable that M be
 - Durable
 - Portable
 - Divisible
 - Uniform (*fungible*)
 - Recognizable

From Commodity M to Fiat M

- M certificates (with 100% reserves) or 100% commodity reserve deposits may work *better* in circulation than M commodity.
- Many of these may never be redeemed.
- *Fractional reserves* may meet all requests for redemption.
- Notes and deposits may become *inconvertible*, and backing completely removed, yet M will still have some value, because of D for M. (Fiat M)
- Even fiat M must *once* have had commodity value.

History of US Monetary Standard

M&B ch. 3

- Colonial Silver Standard
- Bimetallic Standard, 1792-1861
 - De Facto Silver, 1792-1834
 - De Facto Gold, 1834-1861
- Civil War Greenback Standard, 1862-1879
- Monometallic Gold Standard, 1879-1933
 - Bimetallism Movement 1896, 1900
- Fiat Money Standard, 1933-present

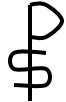
Colonial Silver Standard

Colonists used Spanish Dollar (aka peso)

= 8 reales (8 “bits”)

Originated as Hapsburg *Thaler*, first
minted in St. Joachimsthal, now Czech Rep.

Ps = \$ = peso sign

Ps →  → \$

US Dollar designed to have same silver content
as circulating Spanish dollars

Historical Silver Dollars



Austria 1518 on (w/ US quarter)

en.wikipedia.org/wiki/File:Thaler.jpg h/t Puncsos



Spain 1753

en.wikipedia.org/wiki/File:PhilipV_coin.jpg
h/t Coinman62



1794 "Flowing Hair" Silver \$1 PCGS F15

US 1794

usrarecoininvestments.com



US 1921 Peace Dollar

en.wikipedia.org/wiki/File:Peace_dollar.jpg, h/t RoyFocker 12

Original Bimetallic Standard, 1792-1834

- Silver coinage:

1 US **Dollar** contained 1/1.293 troy oz pure silver

\$1.293 / troy oz = mint price of silver

Free and Unlimited coinage:

Mint gave 1293 silver dollars for 1000 oz silver metal,
without charge or limit.

No seigniorage (profit) from minting.

Worn coins only legal tender at actual weight

Half \$, Quarter \$, Dime, Half Dime with **proportionate silver**.

Alloy 90% silver, 10% copper to make more durable

= Spanish standard. (UK sterling was 92.5% silver.)

Original Bimetallic Standard, 1792-1834 (cont'd.)

- Gold coinage:

1 gold **Eagle** contained 1/1.939 troy oz pure gold

Free and Unlimited coinage

Double, Half, Quarter eagle coins with proportionate gold

Alloy 22 karat:

22/24 (91.67%) gold + silver & copper for durability

- 1 gold eagle made **Legal Tender** for 10 silver dollars
so standard **Bimetallic**, not dual Gold/Silver

Mint Price of gold = \$19.39/oz.

Original **Mint Ratio** = 19.39:1.293 = **15 :1.**



1932 gold eagle

en.wikipedia.org/wiki/File:USA-1932-Coin-10.jpg
h/t anonymous

Original Bimetallic Standard, 1792-1834 (cont'd.)

- **Token** Copper coinage

1 cent, 2 cent pieces

Legal tender only for very small amounts

Supply limited by demand for small change

so standard not “trimetallic”

Created profit for Treasury

“Seigniorage”

What's in an oz?

1 oz Troy \approx 31.1 gm

named for Troyes in Champagne, France

used for

Gold

Silver

Platinum

1 oz avoirdupois \approx 28.3 gm

(avoirdupois)

used for

everything else

Gresham's Law

*If two forms of money are both legal tender, at a mint ratio that differs from the price ratio on the world market, the **overvalued** money will tend to drive the **undervalued** money out of circulation.*

At 15:1, silver was overvalued by the US relative to gold. The world price ratio was closer to 15.5:1.

Silver drove gold out of circulation in US, leaving US on **De Facto Silver Standard** prior to 1834.

Bank notes became only currency for over \$1.

Gresham's Law, before 1834: Silver drives gold out of U.S.

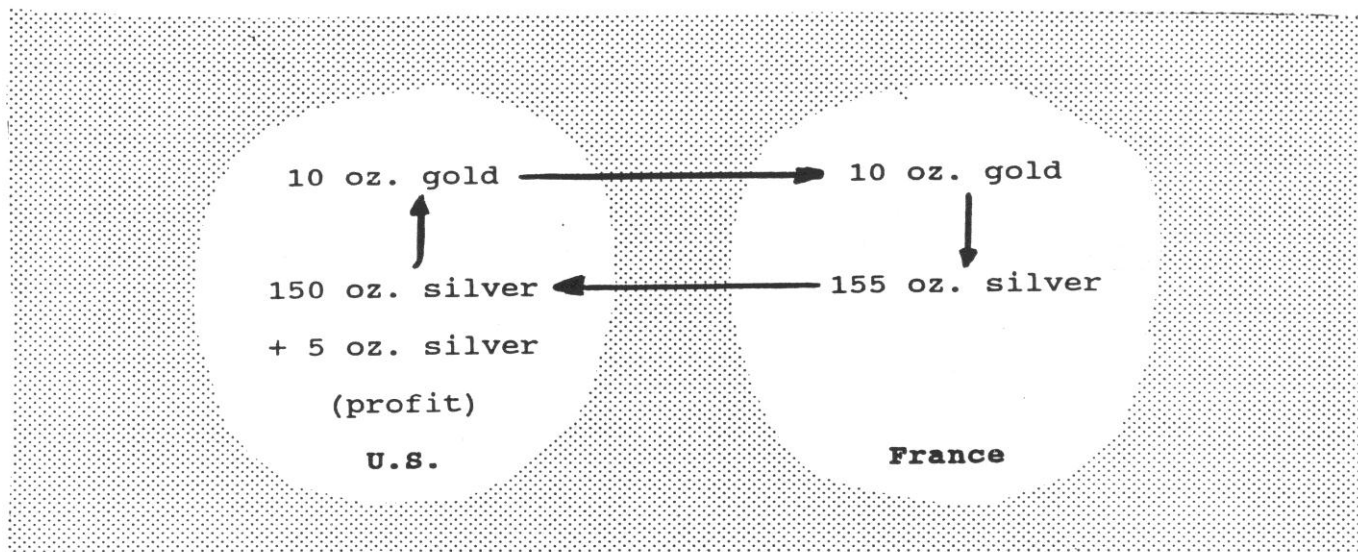


Chart 1. Gresham's Law, before 1834: Silver drives gold out of U.S.

De Facto Gold Standard, 1834-1861

1834: Jacksonians raised mint price of gold to **\$20.67**.

Silver unchanged at \$1.293.

US mint ratio = **16:1**, **gold** now **overvalued**.

Silver → Europe etc., Gold → US.

US still **legally bimetallic**, but now on **De Facto Gold Std.**

Silver dollar, fractional silver disappeared.

1853: **Subsidiary Silver Coinage**

Silver \$.50, .25, .10 reduced to 93% of full silver

Silver ½ dime replaced by nickel

Minting not free or unlimited – small seigniorage

Circulated to 1965.

Gresham's Law, after 1834: Gold drives silver out of U.S.

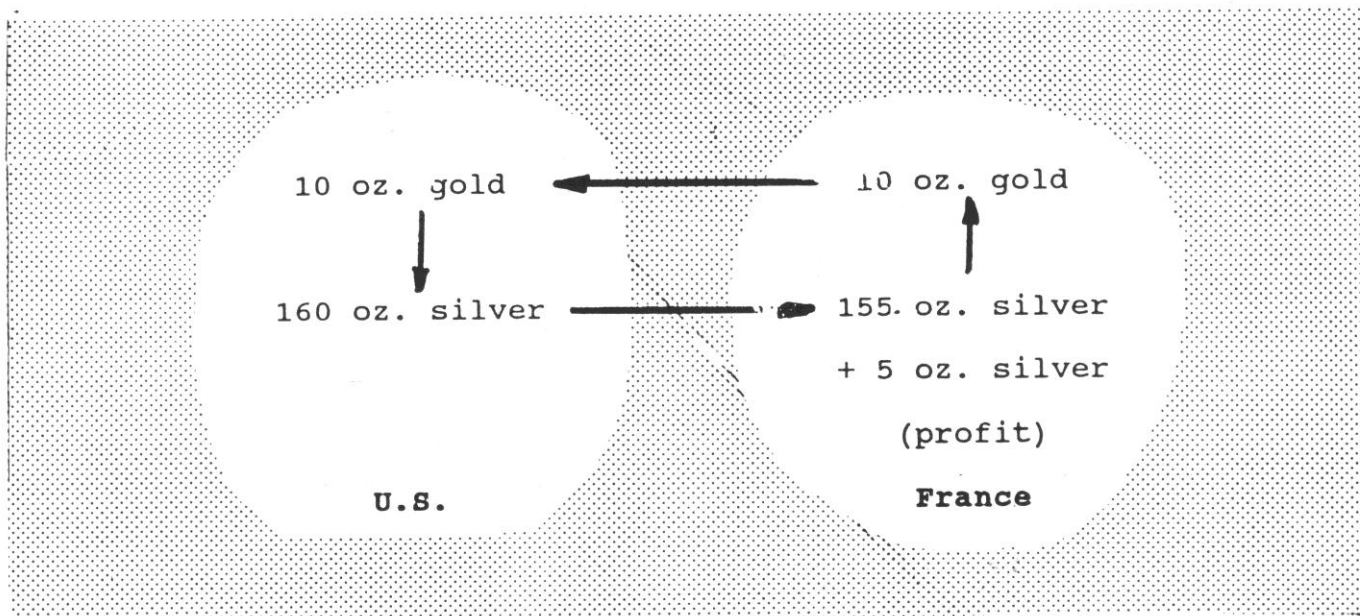


Chart 2. Gresham's Law, after 1834: Gold drives silver out of U.S.

Greenback Standard, 1862-1879

Civil War 1861-1865

United States Notes (Greenbacks)

Issued by US Treasury, originally paid in gold
Conversion suspended end of 1861

Made legal tender early 1862

By 1865, \$1 gold piece rose to \$2.85 paper.

Subsidiary silver, even 1¢ out of circulation.



1862 \$5 Greenback (US Note)

en.wikipedia.org/wiki/File:Deman_Legal_Comparison
h/t LondonYoung



Civil War 15¢ note

en.wikipedia.org/wiki/File:15cf-big.jpg
h/t Wikiduedman

Gold Standard, 1879-1933

Gradual deflation after war, 1865-1879.

1873 law eliminated silver definition of dollar,
called for resumption in gold only.

Resumption of gold conversion in **1879**.

⇒ **Legal Gold Standard after 1879 resumption,**
@ Jacksonian **\$20.67/oz.**

Only **limited** minting of legal tender silver \$

Most used to back **silver certificates**

But not enough to drive gold completely out

Germany, France, etc also off silver 1871-1873.

UK already on gold since early 19th century

Russia, India, on gold late 19c.

Gold became international standard (except China)

Silver fell to \$.63/oz by 1894.

Bimetallism Movement

Advocated restoring **unlimited minting of silver**
@ 1.293/oz, making **legal tender** for all **prior**
and future debts.

Dominated 1896, 1900 presidential elections

Bimetallism: Wm. Jennings Bryan (D, Progressive)

“Cross of Gold” speech, “Crime of '73”

Gold: Wm. McKinley (R)

Would have restored de facto silver standard,
provided contractual relief for pre-1873 debt,
expropriated up to 50% of post-1873 debt.

Fiat Money Standard, 1933-present

Federal Reserve Notes introduced 1914

Originally obligations to pay gold on demand

Backed 40% with gold, 60+% with gold-denom. loans

Not legal Tender

Banking Crisis 1930-33

March 1933 **banking holiday** as FD Roosevelt inaug.

Gold coins “temporarily” called in, replaced by FR notes

FR note made Legal Tender

Gold possession made crime for US citizens until 1975.

1935: \$ devalued to 1/35 oz gold (\$35/oz) for int'l trade.

Gold defined \$ internationally until 1968.

Fiat Money Standard, 1933-present, cont'd.

1963: Market price of silver reaches \$1.293

Silver certificates out of circulation.

1965: Silver rises further

Subsidiary (93%) silver 50¢, quarter, dime disappear.

Replaced by nickel/copper token coins.

1968: Run on US gold, int'l sales “temporarily” stopped

1971, 1973: Official gold price raised to \$38, then \$42.22,
but not really sold, so a **fiction**.

1973: Int'l convertibility permanently suspended.

9/23/2011:

Gold \$1659/oz, Silver \$31.00/oz.

Ratio = 53.5:1

Economics of Oz

L. Frank Baum, *The Wonderful Wizard of Oz*, 1900

1964, 1990 articles in *Am. Quarterly*, *J. Political Econ*:

Oz = oz.

Scarecrow = Farmer

Tin Woodsman = Worker

Cowardly Lion = Bryan

Dorothy = America

Wicked Witch of East = Grover Cleveland, pro-gold Dem

Wicked Witch of West = McKinley, from out west in Ohio

Wizard = Marcus Hannah, behind scenes political manipulator

Emerald City = Washington, home of greenbacks

Yellow Brick Road = Gold Standard, almost leads Dorothy astray



Dorothy's Magic Slippers that bring her Back Home safely are Silver in book, and in *The Wiz*, not Ruby Red as in MGM!

Next –

M&B 7 – Price Level

M&I 2 – Quantity Theory of Money

HW due Friday 5PM