Using Imagery and Data to Connect
Huh??!??!
Learning Through Visuals

• Decrease learning time\(^1\)
• Improve comprehension\(^{1,2}\)
• Generate and retain interest\(^3\)
  • Improves learning outcomes

\(^2\) Kouyoumdjian (2012)
\(^3\) Ainley (1998); Renninger (2000); Renninger & Wozniak (1985); Schiefele (1996); Schiefele, Krapp, & Winteler (1992)
Learning Through Visuals

- Enhance retrieval\(^4\)
  - Dual coding
- Increase retention\(^5\)

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\(^4\) Myers (2004); Paivio (1986); Clark & Paivio (1991)
\(^5\) Carney & Levin (2002); Bui & McDaniel (2015)
Make learning STICK!
1. Key Concepts
2. Data Graphics
   a. Current Macro Data
   b. International Data
1. Key Concepts

2. Data Graphics
   a. Current Macro Data
   b. International Data
3: Markets
7: Inflation
<table>
<thead>
<tr>
<th>Food</th>
<th>Coffee</th>
<th>Milk</th>
<th>Tea</th>
<th>Etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Croissants 3</td>
<td>Brewed 8 oz</td>
<td>Au Lait 2 oz</td>
<td>Cup Pot 2 oz</td>
<td>Hot Chocolate 3 oz</td>
</tr>
<tr>
<td>Cheese Danish 3</td>
<td>12 oz</td>
<td>Latte 2 oz</td>
<td>Tea Latte 2 oz</td>
<td>Steamer 2 oz</td>
</tr>
<tr>
<td>Muffins 2</td>
<td>French Press 5 oz</td>
<td>Macchiato 3 oz</td>
<td>Mate 2 oz</td>
<td>Italian Soda 3 oz</td>
</tr>
<tr>
<td>Quiche 3</td>
<td>Mocha 3 oz</td>
<td>Chai Latte 3 oz</td>
<td>Smoothie 4 oz</td>
<td></td>
</tr>
<tr>
<td>Scones 2.50</td>
<td>Cortado 3 oz</td>
<td>Tea Latte 3 oz</td>
<td>Iced Tea 1 oz</td>
<td></td>
</tr>
<tr>
<td>Cookies 1.25</td>
<td>Red Eye 2 oz</td>
<td>Chai 3 oz</td>
<td>Chai 1 oz</td>
<td></td>
</tr>
<tr>
<td>Rasp-Cookie 1.75</td>
<td>Iced Coffee 2 oz</td>
<td>Home Made 2 oz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cupcakes 3</td>
<td>Cold Brew 2 oz</td>
<td>Almond 2 oz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fruit 1</td>
<td>Americano 2 oz</td>
<td>Pecan 2 oz</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coffee Options:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dark Horse</td>
</tr>
</tbody>
</table>
22: Monetary Policy III
17: Fiscal Policy
6: Unemployment
## Group Activity

Suggest photos to open a lecture on: ______________

### Micro Topics
- Decreasing Marginal Utility
- Opportunity Cost
- Monopoly
- Externalities
- Elasticity

### Macro Topics
- Federal Budgets
- Fiscal Policy
- Unemployment
- Aggregate Demand
- Aggregate Supply
1. Key Concepts
2. Data Graphics
   a. Current Macro Data
   b. International Data
1. Key Concepts
2. Data Graphics
   a. Current Macro Data
   b. International Data
Current Macro Data

*1. FRED Data

2. BEA and BLS
• Dashboard
• GeoFred
• FREDcast
League Invite Code

Give this code to people you would like to join: **V0ECQVTU**

League invite codes are case-sensitive.

Invite Members by Email:

Multiple email addresses should be comma separated.

Send Invites
Rise and fall of some famous asset bubbles

- Tulip Mania (1619-1622)
- Bitcoin (2014-Today)
- Mississippi Bubble (1716-1719)
- South Sea Bubble (1719-1722)
- US Stocks (1923-1932)
- Great Depression Real Estate (1920-1931)
- Gold (1975-1982)
- US Real Estate (1996-2011)
- Chinese Stocks (2005-2008)
- Oil (2005-2008)
- Chinese Stocks (2014-Today)
- US Stocks (2009-Today)
Inflation Rates
The geography of unemployment
International Growth Data
1. Gapminder
2. **Angus Maddison Data**

Very long run data (0 – 2016 AD)
World Per Capita Real GDP
1 – 2010, 1990 International Dollars

Source: Maddison data
World Per Capita Real GDP
1 – 2010, 1990 International Dollars

Source: Maddison data
1928年12月

地贫平生未家

我的个田到户,每户主呈发悟事.如以后路平.每户要记.一块效公平的全由

上交社合粮.不放向国家伸手要钱.如不改万.我们平分.作单aser.头

也干心.大平均也会把我们的孩子.养活到十八岁.

严南昌

周更谋

关太德

罗玉昌

罗玉昌

罗玉昌

罗玉昌

周更谋

周更谋
Literal Translation:
December 1978          Mr. Yan’s Home

We divide the field (land) to every household. Every leader of the household should sign and stamp. If we are able to produce, every household should promise to finish any amount they are required to turn into the government, no longer asking the government for food or money. If this fails, even if we go to jail or have our heads shaved, we will not regret. Everyone else (the common people who are not officers and signees of this agreement) also promise to raise our children until they are eighteen years old.

First signer: Hong Chang Yan
Translated by: Chuhan Wang
“If prices don’t adjust, output must.”