Build a model of the commodity market, while keeping prices fixed.

AE

\( RGDP \)

2 key relationships

- Equilibrium condition \( AE = RGDP \)
- "Expenditure function" \( AE = \alpha + \beta_R \times RGDP \)
Equilibrium Expenditure

Aggregate planned expenditure (trillions of 1992 dollars/year):

10.0
8.0
6.0
4.0
2.0

Real GDP (trillions of 1992 dollars per year):

9
2
4
6
8
10

$AE = RGDP$

at any point in the community market is in equilibrium.
AE > RGDP

What happens?

AE < RGDP

What happens?
key step

build the planned aggregate expenditure schedule
Aggregate Planned Expenditure

AE = C + I + G + X - T

Real GDP (trillions of 1992 dollars per year)

10 8 6 4 2 0

Concept: Table, Graph, Function

Aggregate Planned Expenditure

(Trillions of 1992 dollars/year)
Aggregate Planned Expenditure and Real GDP

- Induced expenditure is the sum of the components of aggregate expenditure that vary with real GDP.
- Autonomous expenditure is the sum of the components of aggregate expenditure that are not influenced by real GDP.

\[ AE = \bar{a} + \left[ b \left( 1 - \bar{c} \right) - \bar{m} \right] \times RGDP \]
### Aggregate Planned Expenditure

#### Planned expenditure

<table>
<thead>
<tr>
<th>Real GDP (Y)</th>
<th>Consumption expenditure (C)</th>
<th>Investment (I)</th>
<th>Government purchases (G)</th>
<th>Exports (X')</th>
<th>Imports (M)</th>
<th>Aggregate planned expenditure (AE=C+I+G+X-M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>0.75</td>
<td>0.5</td>
<td>0.55</td>
<td>1.2</td>
<td>0.0</td>
<td>3</td>
</tr>
<tr>
<td>b</td>
<td>2.25</td>
<td>0.5</td>
<td>0.55</td>
<td>1.2</td>
<td>0.5</td>
<td>4</td>
</tr>
<tr>
<td>c</td>
<td>3.75</td>
<td>0.5</td>
<td>0.55</td>
<td>1.2</td>
<td>1.0</td>
<td>5</td>
</tr>
<tr>
<td>d</td>
<td>5.25</td>
<td>0.5</td>
<td>0.55</td>
<td>1.2</td>
<td>1.5</td>
<td>6</td>
</tr>
<tr>
<td>e</td>
<td>6.75</td>
<td>0.5</td>
<td>0.55</td>
<td>1.2</td>
<td>2.0</td>
<td>7</td>
</tr>
<tr>
<td>f</td>
<td>8.25</td>
<td>0.5</td>
<td>0.55</td>
<td>1.2</td>
<td>2.5</td>
<td>8</td>
</tr>
</tbody>
</table>

\[
C = C + b \times Y
\]

\[
I = \bar{I} \quad G = \bar{G} \quad X = \bar{X} \quad M = \bar{M} + m \times Y
\]
Equilibrium Expenditure

45° line

Real GDP exceeds planned expenditure

Equilibrium expenditure

Planned expenditure exceeds real GDP

AE = AE + MPS x GDP

Marginal propensity to spend

How do markets work?
prior to equilibrium

AE Planet ≥ Y

2 eqilibrium

AE = Y

key question

If AE Planet ≥ Y

see what happens?

If AE Planet < Y

see what happens?

key question What Adjust next hypothesis
Dis-equilibrium in the commodity market

Micro 101

How do markets work?

[Graph showing supply and demand]

Price flexibility is key to market adjustment

\[ \phi^d < \phi^s \text{ then } \Delta P < 0 \]

\[ \phi^d > \phi^s \text{ then } \Delta P > 0 \]
 Disequilibrium in the commodity market

Macroe 102

How do markets work?

\[ P \]
\[ \bar{P} \]
\[ AD \]
\[ AS \]
\[ AS_d \]
\[ f.e. \]
\[ \Delta G D P < 0 \]

Adjustment hypothesis

If at \( P = \bar{P} \), \( AD < AS \)

Then \( \Delta P = 0 \)

\( \Delta G D P < 0 \)

\( \rightarrow \) AS\(_d\) will shift towards \( AS_i\)

\( \rightarrow \) \( P\), by assumption or in practice, will not change.
### Equilibrium Expenditure

| Aggregate planned Unplanned expenditure inventory change (Y-AE) (trillions of 1992 dollars) |
|---|---|---|---|---|---|---|---|
| Real GDP (x) | a | b | c | d | e | f | g |
| 0 | 2 | 4 | 5 | 6 | 7 | 8 | 10 |

### Diagram

- Inventory
- Sales
- Low
- High

What happens if...
2 series matching your search criteria were found.

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Chart Maker

Provided by Ted Bos, School of Business, University of Alabama at Birmingham.

Click on chart to get and save; or shift-click to save.

Get the data here.
Return to Chart Maker to make other custom charts.

If you have a question about the series, see if it is answered here, else send email to TedBos@UAB.edu
What caused the recent recession?

Inventory/Sales ratio

- If high, ARGDP slows
- If low, ARGDP accelerates