# Refresher Module

**Economics**

Money and Banking

Monetary Policy & Fiscal Policy

# 2 Definition of Money

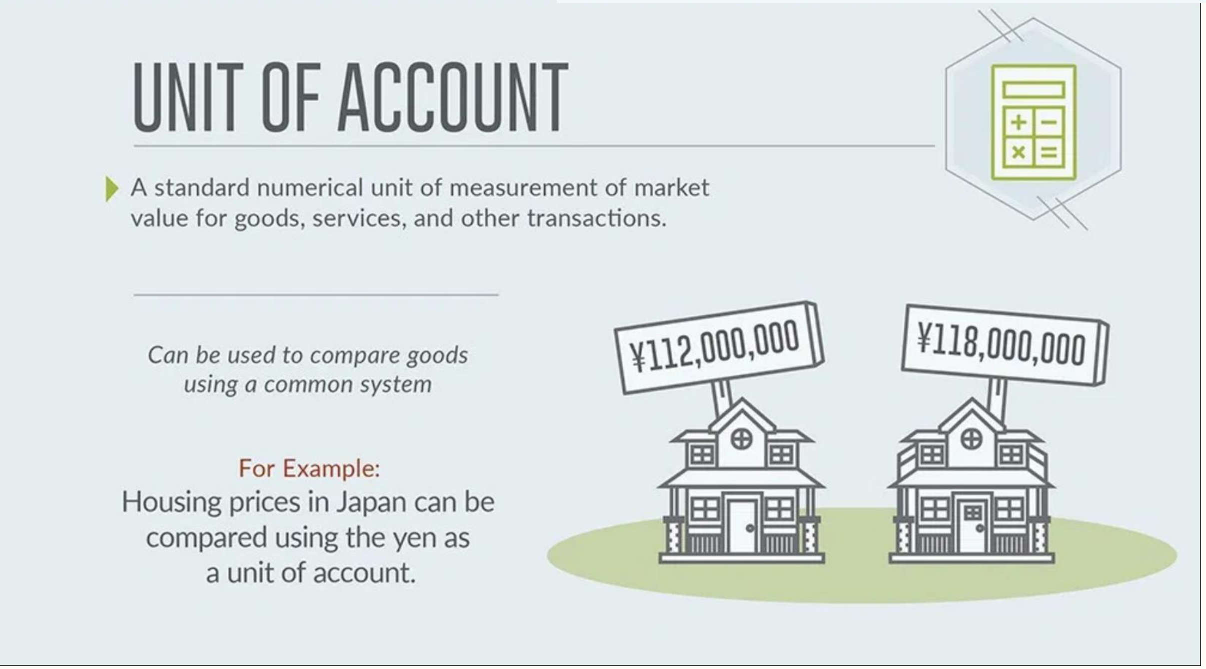
– Economists consider **<u>money</u>** to be any asset that people are generally willing to accept in exchange for goods and services or for payment of debts.

# The Functions of Money

– Money must function as:

- *a medium of exchange.*
- *a store of value.*
- *a unit of account.*

– Source: http://money.visualcapitalist.com


# Types of Money

- For thousands of years, societies have used commodity money.
- *Commodity money:* a good used as a medium of exchange that has intrinsic value in other uses.

*Some prisons use cigars as currency. It has some alternative, non-monetary use.*

*The island of Yap's currency*

*Commodity-backed money:* a medium of exchange with no intrinsic value whose ultimate value is guaranteed by a promise that it can be converted into valuable goods.

*Fiat money:* money whose value derives entirely from its official status as a means of payment.

# Measuring the Money Supply

– ***Monetary aggregate:*** an overall measure of the money supply.

1. *The monetary base (MB): currency outstanding and total reserves at the Fed.*
2. *M1: currency outstanding and checkable deposits.*
3. *M2: M1 plus saving deposits, money market mutual funds, and small-time deposits.*

# The role of Fed

- The Fed has direct control *only over the monetary base.*
- *The Fed can indirectly affect M1 and M2 by controlling the monetary base.*
- *M1 and M2 and can change independent of what the Fed does.*

# Required and Excess Reserves

The bank must keep *some* cash available for its depositors;

**Actual Reserves**= *vault cash* + deposits with the Federal Reserve.

Banks in the U.S. are required to hold **required reserves**:

10 percent is the **required reserve ratio (RR)**: the minimum fraction of deposits (D) banks are required by law to keep as reserves.

Required Reserves= RR*D

- Banks might choose to hold **excess reserves**: reserves over the legal requirement.
- Excess Reserves= Actual Reserves-Required Reserves

# Instrument vs. tool

- <u>Monetary policy instrument</u>
- Target level of federal funds rate
- Target level of monetary aggregate
- Target level of inflation

- <u>Monetary Policy tools</u>
- Open Market Operations.
- Discount Rate
- Required reserve ratio
- Interest on Bank Reserves

# The Federal Funds Rate (FFR)

- Federal funds market is an overnight market.
- Interbank market: Banks borrow and lend reserves in this market to meet the reserve requirement
- Targeted federal funds rate:  Fed’s policy instrument
- Raise the target: contractionary
- Lower the target: expansionary

# Reserve Requirement ratio

- Raising the reserve requirement limit the lending capacity of the banks (excess reserves fall)

- Lowering the reserve requirement implies loose limits for the amount of lending by banks (excess reserves rise)

- Money multiplier and money creating falls with increasing reserve requirement.

# Open Market Operations (OMOs)

- Most flexible and frequently used
- The goal is to have an impact on reserve balances
- Decided at the Federal Open Market Committee (FOMC)  Meetings
- When the Fed buys anything (even socks), Bank reserves increase.
- Fed chooses government bonds to buy and sell daily.
- Open market purchase: expansionary
- Open market sale: contractionary

# Monetary Policy implementation

- Fed will first look at the output and inflation gap data
- Then, decide to implement whether an expansionary or a contractionary policy
- Then, change the policy instrument (i.e. lower the target FFR for expansionary policies, vice versa)
- Then, conduct a corresponding OMOs to support the new target.
- Then, interest rate and money supply will change in the money market after the OMOs.
- As a result, the gap will be closed in the goods market.

# Target Federal funds rate

- To boost the money supply (expansionary monetary policy), the Fed needs to lower the target federal funds rate below the market rate in the federal funds market.
- To contract the money supply (contractionary monetary policy), the Fed needs to raise the target federal funds rate above the market rate in the federal funds market.

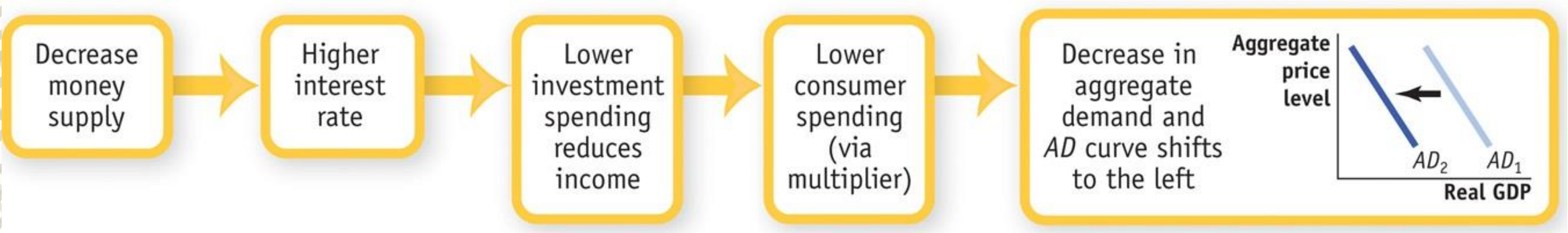
**Monetary Base** = Bank Reserves + Currency in Circulation

# T-chart for the Fed

| Assets | Liabilities |
| --- | --- |
| Other assets | Currency (C) |
| T-bills | Bank Reserves |
| Foreign Currency or other stuff | |

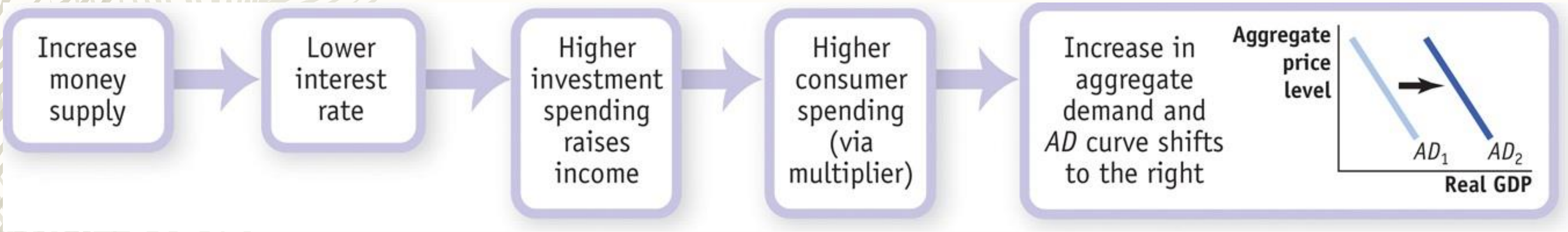
# Monetary Policy and Aggregate Demand

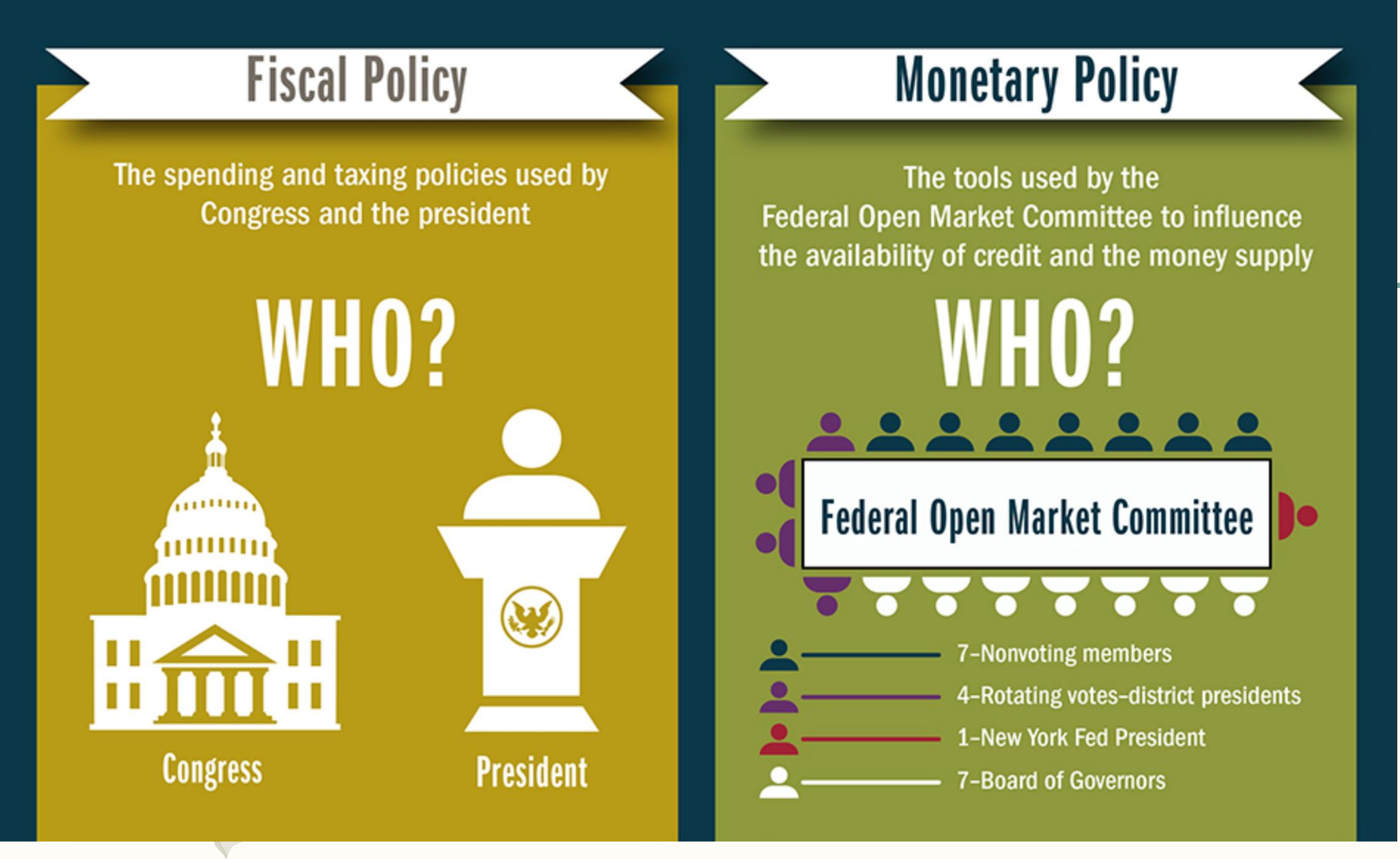
– How the contractionary monetary policy cycle works:



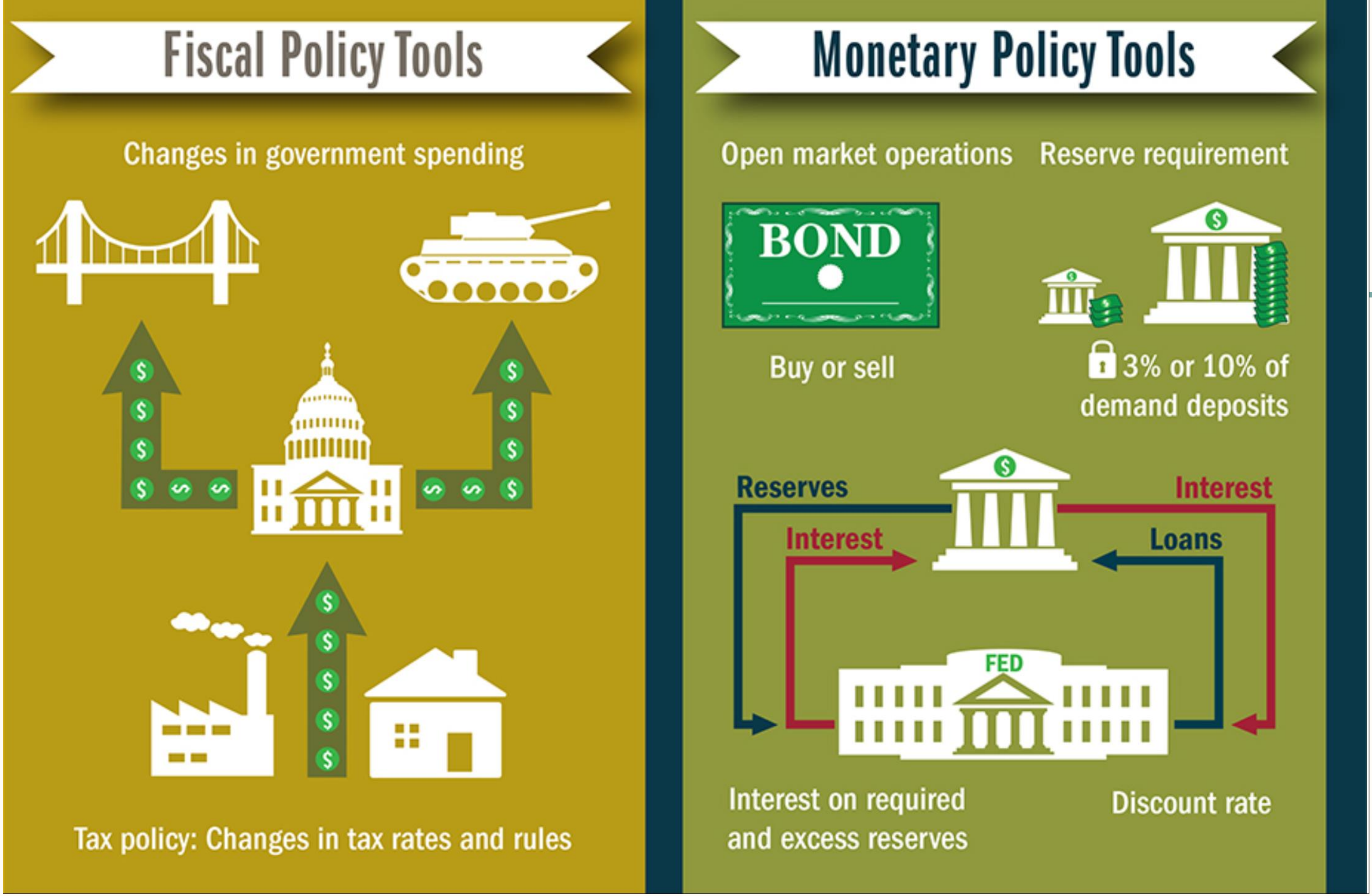
# Monetary Policy and Aggregate Demand

How the expansionary monetary policy cycle works:






Source: Federal Reserve Bank of Atlanta

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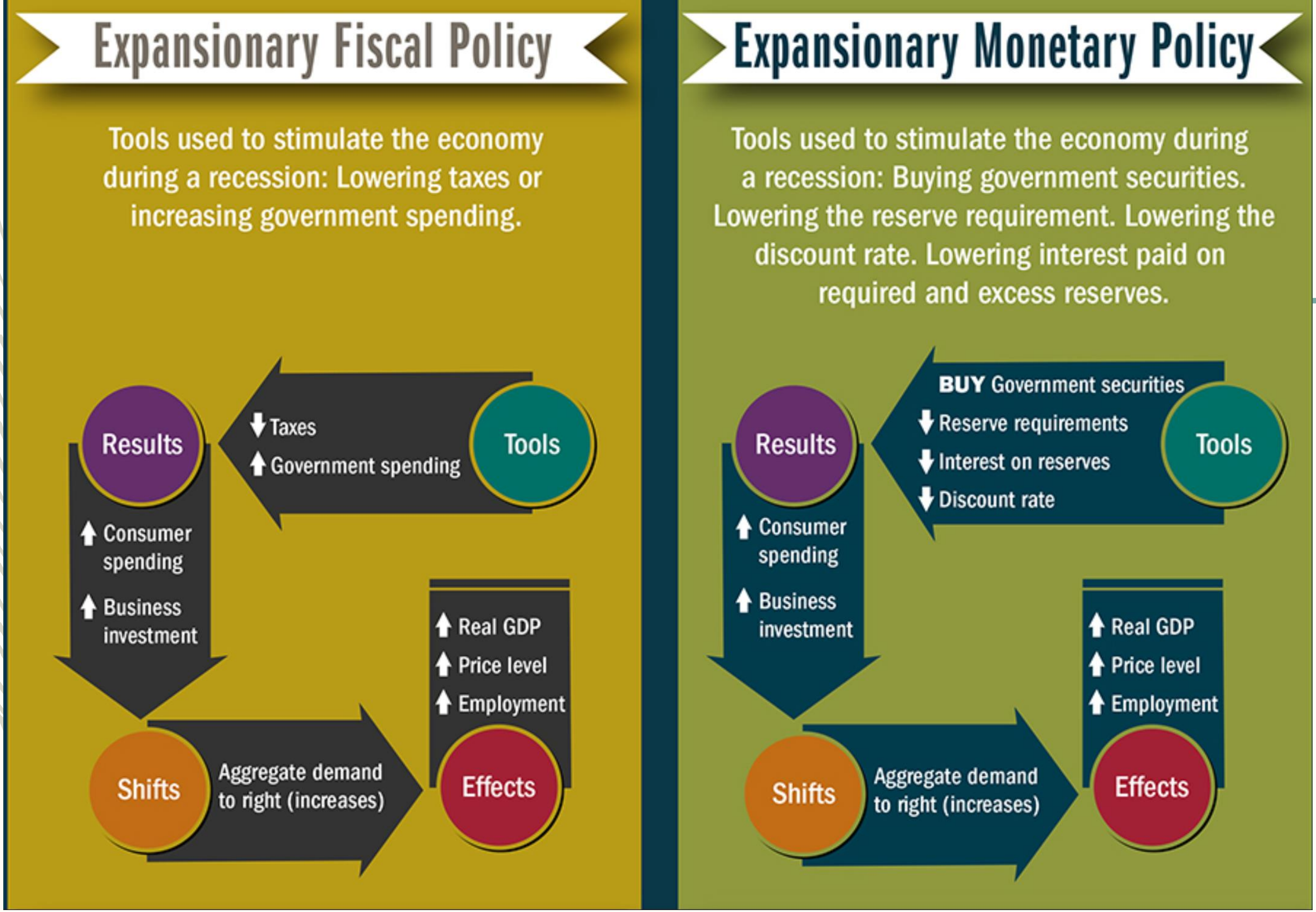


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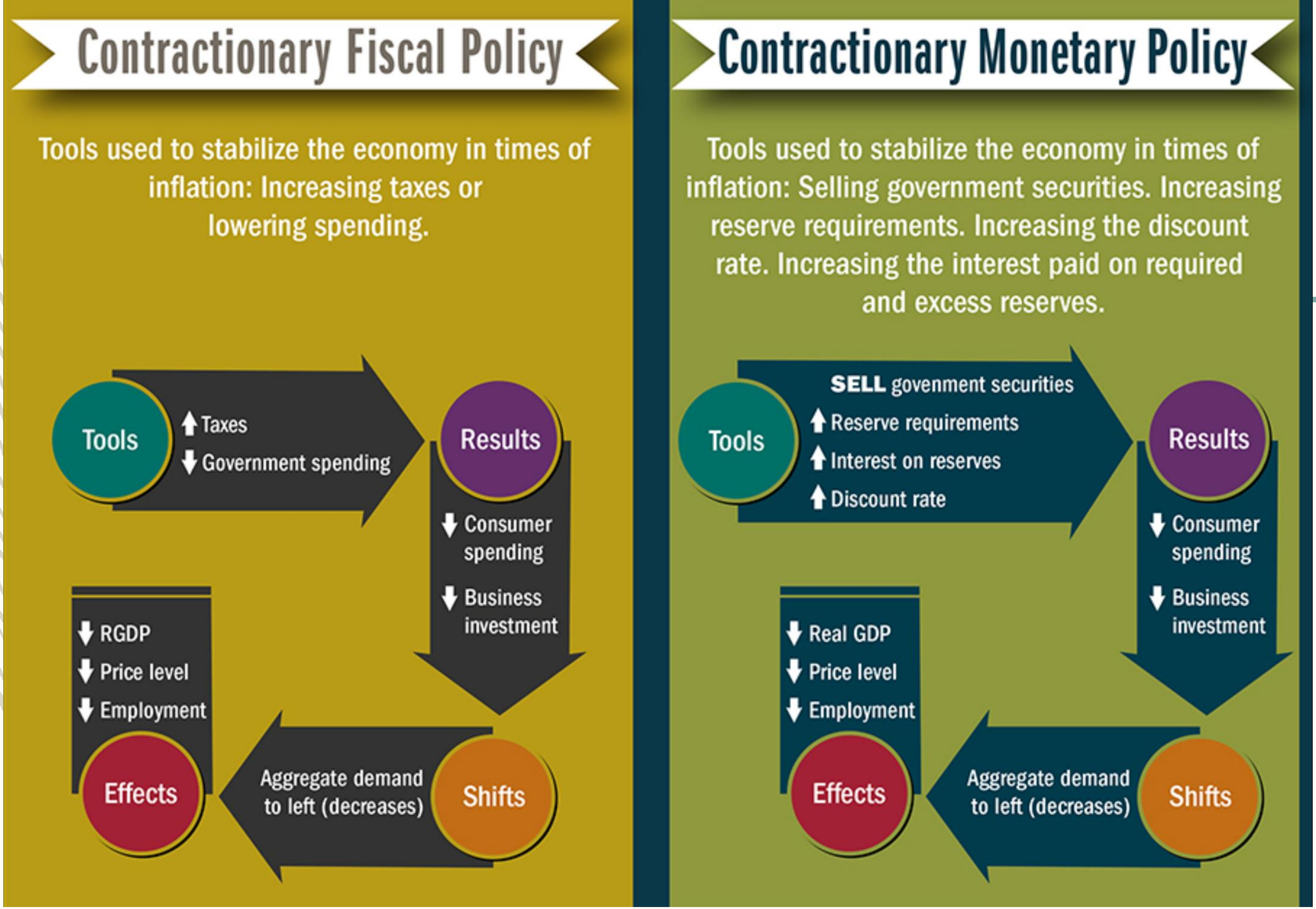


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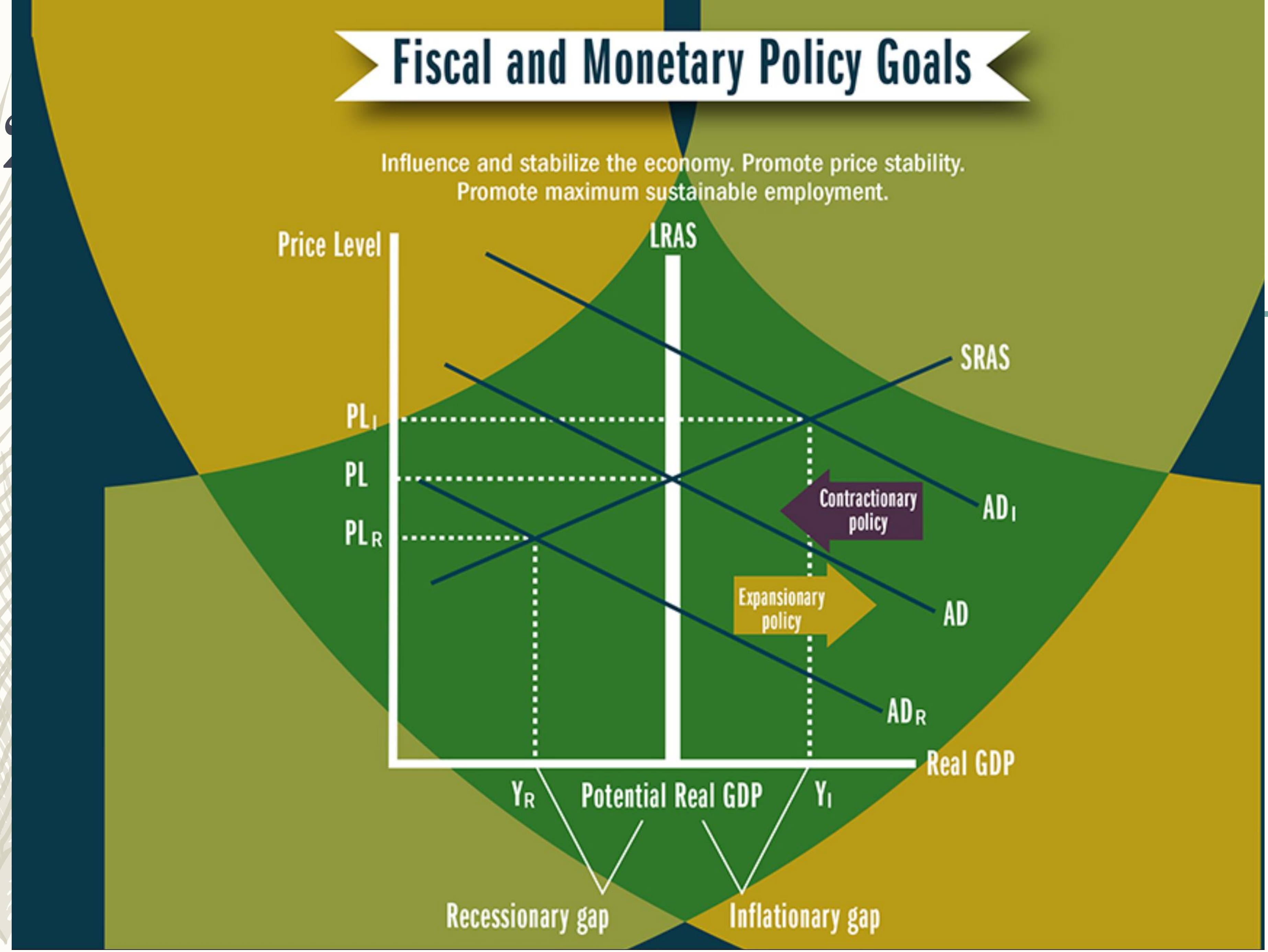


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