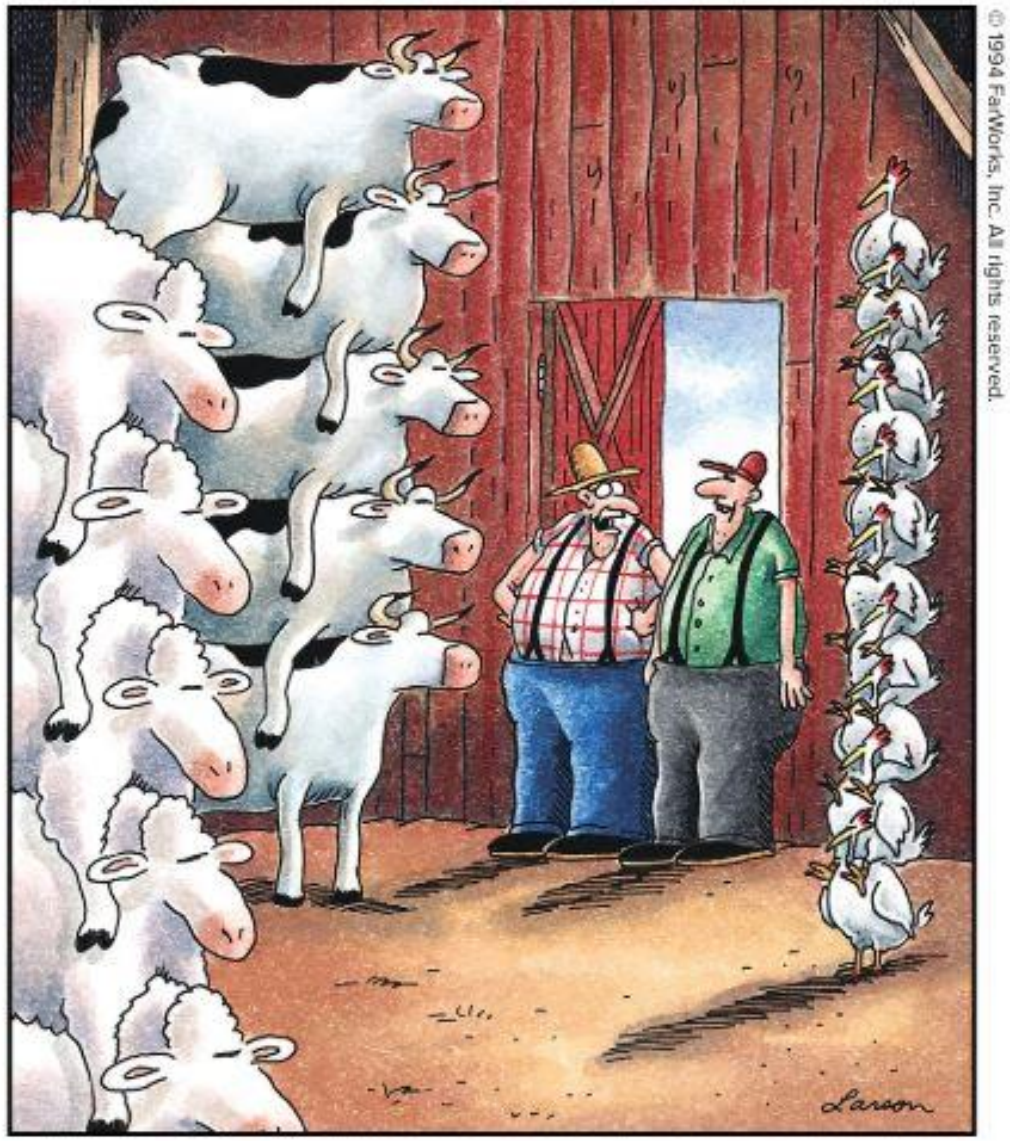
Econ 201: Introduction to Economic Analysis

November 30 Lecture: Monetary and Fiscal Policy

Jeffrey Parker
Reed College

Daily dose of The Far Side

www.thefarside.com



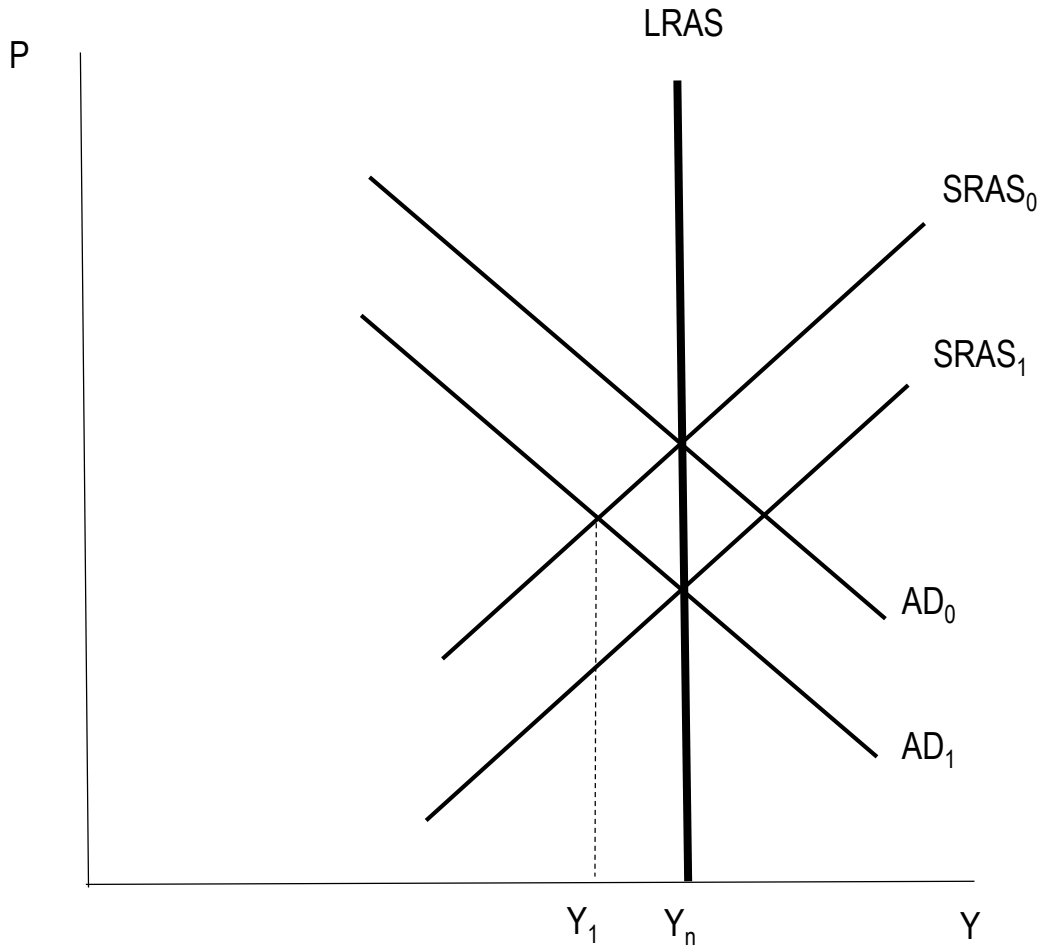
"It's the only way to go, Frank. Why, my life's changed, ever since I discovered Stackable Livestock®."

Preview of this class session

- Stabilization policy attempts to shift AD to return output to natural level
- Demand for real money depends on income and nominal interest rate
- Expansion of the money supply is associated with fall in interest rates, which stimulates spending (expansionary monetary policy)
- Increase in government spending leads to multiplier effect
- Higher government deficit may crowd out private spending by raising interest rates
- Mistimed stabilization policy can actually destabilize
- All government spending must be paid for by current taxes, future taxes, or inflation taxes

Stabilization policy

- Suppose **negative AD shock** (AD_0 → AD_1) pushes output below natural level to Y_1
- **Two alternatives** to return to full employment:
  - **Wait** for SRAS curve to fall to $SRAS_1$
  - **Use policy** to increase AD back to AD_0
- **Monetary and fiscal policy** can be used to increase AD during demand-shock recessions



Monetary Policy

Demand for real money balances

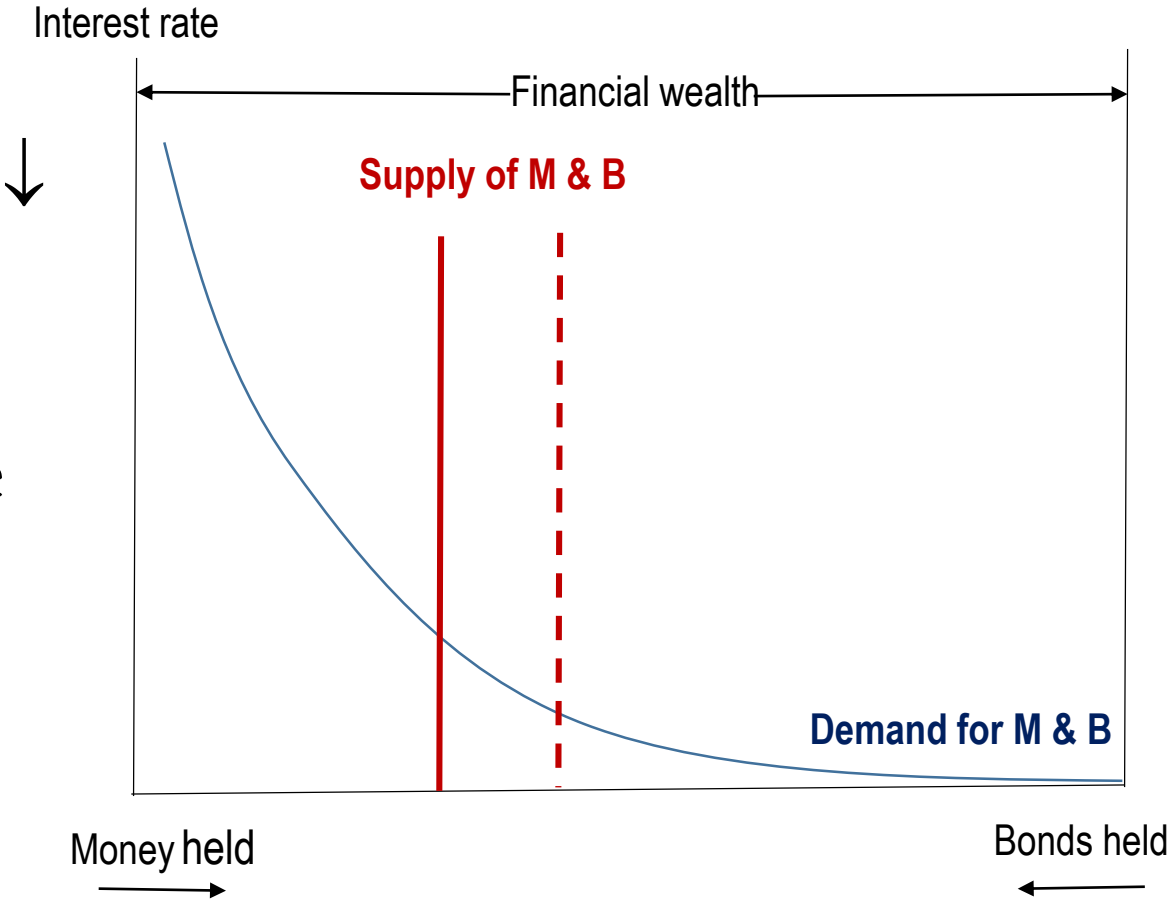
- Money is used to make transactions
- How much of their wealth do people want to hold as money vs. bonds and other less-liquid assets that earn return?
  - Higher price level → proportionally more nominal money demanded
  - More expenditures → more money demanded
  - Higher nominal interest rate → more bonds, less money demanded

$$M^d = P \times L(Y, i) \qquad \frac{M^d}{P} = L(Y, i)$$

- Fed controls money supply via open-market operations and money-supply multiplier
- Money demand = money supply in equilibrium

Asset-holding equilibrium

- Financial wealth = $M/P + B/P$
- For given Y, $i \uparrow \rightarrow (B/P)^d \uparrow$, $(M/P)^d \downarrow$
- Fed sets $(B/P)^s$ and $(M/P)^s$ through open-market operations
- **Asset-holding equilibrium** is where $(M/P)^d = (M/P)^s$
- Increase in $(M/P)^s$ leads to lower i and higher desired spending, AD ↑
  - Open-market purchases by Fed = **Stimulative monetary policy**
- If Fed targets interest rate, think of supply as horizontal at target rate



Monetary-policy lags

- **Policy lags** are important: How long does it take between the need for stimulus and its effect on AD?
  - If too long, then waiting for SRAS to adjust might be better
- Inside lags: How long until policy is implemented?
  - **Recognition lag** (Fed collects lots of real-time data)
  - **Action lag** (FOMC can make decisions quickly)
  - **Implementation lag** (can change target interest rate in minutes)
- **Outside lag**: How long until implemented policy affects AD?
  - Can be very long for monetary policy
  - Firms need to respond to lower interest rates by deciding to invest, planning projects, spending to build, etc.
  - One to two years before full effects on AD are realized

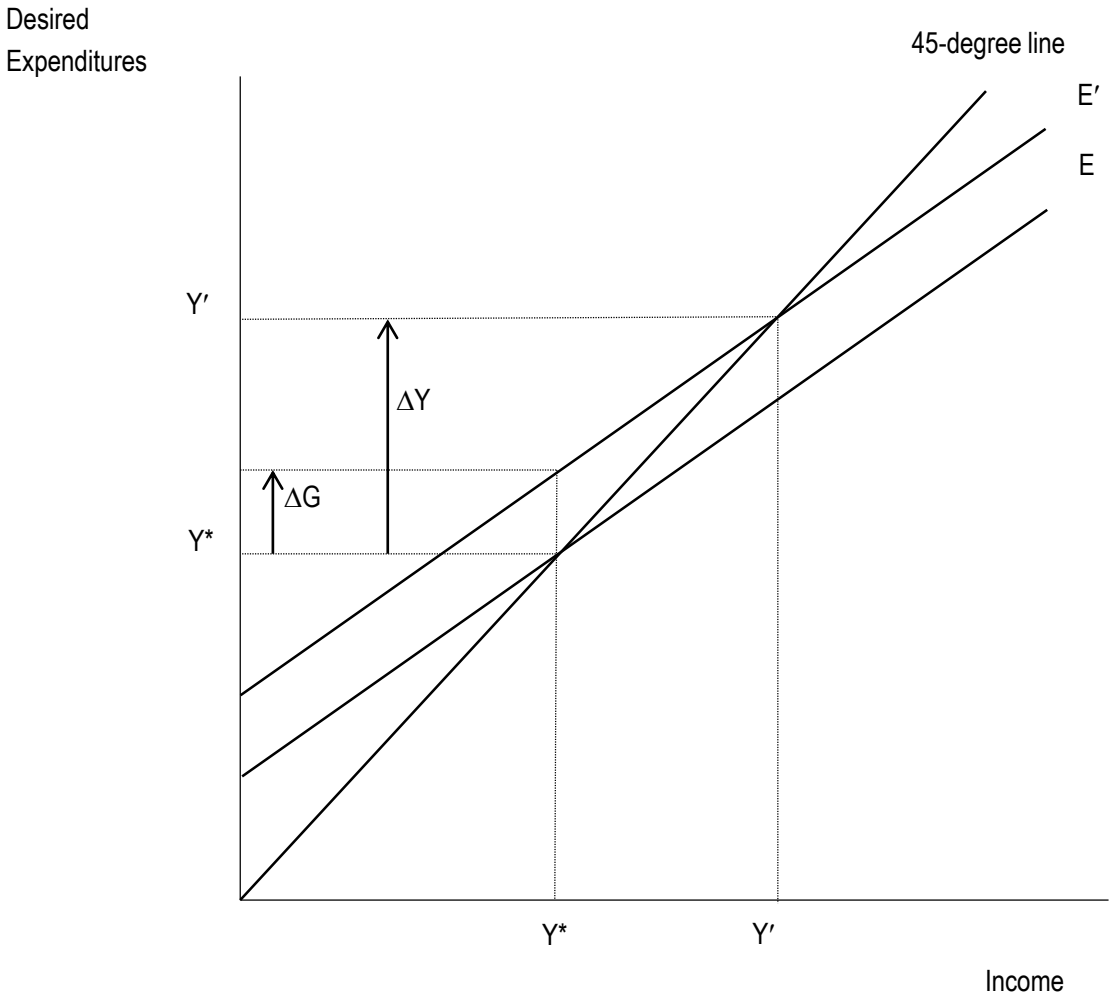
Fiscal Policy, Deficits, and Debt

Government spending and taxes

- If government can run deficits, then G and T can change independently
  - Basic measure of deficit is $T - G$
- Increase in G raises aggregate expenditures directly
- Decrease in T increases **disposable income**, so consumption goes up
- Increase in aggregate demand; AD shifts to the right
- With upward-sloping SRAS, both Y and P increase in short run
- With vertical LRAS, only prices increase in long run

Expenditure multiplier

- Consumption depends on income
- $\Delta C / \Delta Y$ = marginal propensity to consume ($0 < \text{MPC} < 1$)
- $G\uparrow \rightarrow Y\uparrow \rightarrow C\uparrow \rightarrow Y\uparrow \rightarrow C\uparrow \ldots$
- Eventual increase in AD is a **multiple** of original ΔG
- Simple **multiplier** = $1/(1 - \text{MPC})$
- Larger MPC → Larger multiplier and larger effect $\Delta Y / \Delta G$
- Multiplier applies to *any* spending shock, not just ΔG



Crowding out

- In short run, expansionary fiscal policy tends to raise interest rates
  - As Y increases, demand for money increases, so interest rate rises
  - Government borrowing lowers government saving
- Increase in interest rates tends to reduce investment
  - Public spending "**crowds out**" private spending
- In long run, output returns to natural level
  - $Y = C + I + G + NX$
  - If Y doesn't increase, then something else must decrease
- Decrease in private investment due to higher interest rate
- Decrease in net exports if high interest rates draw foreigners to purchase more U.S. bonds instead of U.S. goods

Tax cuts as fiscal policy

- **Tax cuts** increase AD just as increases in spending do
  - We consider transfer payments to be "negative taxes"
- Lower taxes → higher disposable income → higher consumption spending by households?
- Will households actually increase spending?
  - Unless liquidity constraint, they should base consumption on lifetime income/wealth, not just this year's
  - Worries about higher future taxes to pay off bonds?
  - Temporary tax cuts or transfer increases don't affect lifetime income much
  - Tax cuts believed to be permanent should affect consumption more

Fiscal-policy lags

- **Fiscal policy** is decided by Congress and President
- Long inside lags due to delays in political decisions
  - Must not only decide on size of G and T, but on composition
  - On what should the government spend?
  - Whom should be taxed and how?
  - These lags are much longer than for monetary policy
- Outside lag might be shorter than monetary policy
  - Budgets are usually approved well in advance for a year
  - Might be delay between need and beginning of fiscal year
  - Once spending actually happens, it gets into the system quickly

Automatic stabilizers

- Some fiscal-policy "actions" aren't really actions: They happen automatically through existing legislation
- **Automatic stabilizers** are components of spending, taxes, or transfers that change automatically in response to changes in GDP without action by policymakers
  - Income taxes go down when incomes go down
  - Unemployment compensation and other transfer payments go up when income goes down
- These act as stabilizing fiscal policy with no recognition, decision, or implementation lags

Pros and cons of stabilization policy

- Argument for using stabilization policy: It may restore full employment more quickly than relying on automatic shift in SRAS curve
- But what if **lags are too long** to make it useful in time?
- And what if lags cause policy actions to be **mistimed**? Slow stimulus might simply augment the following boom rather than offsetting recession?
- What if AD policies are used more aggressively when output is below the natural level than when it is above? Asymmetric policies can have **inflationary bias**, leading to gradual increase in expected inflation that gets built into future inflation

Deficits and debt

- **Government deficit** = flow of borrowing
- **Government debt** = accumulated stock of outstanding bonds
- Government debt means future interest and principal payments
- When *should* governments borrow?
  - For capital projects with long-term benefits: Spread cost along with benefits
  - During periods when income is temporarily low
  - During periods when benefits of spending are temporarily high
  - All of these are sensible times for households to borrow … and governments
- But governments *shouldn't* borrow for short-term expenditures during "normal" times

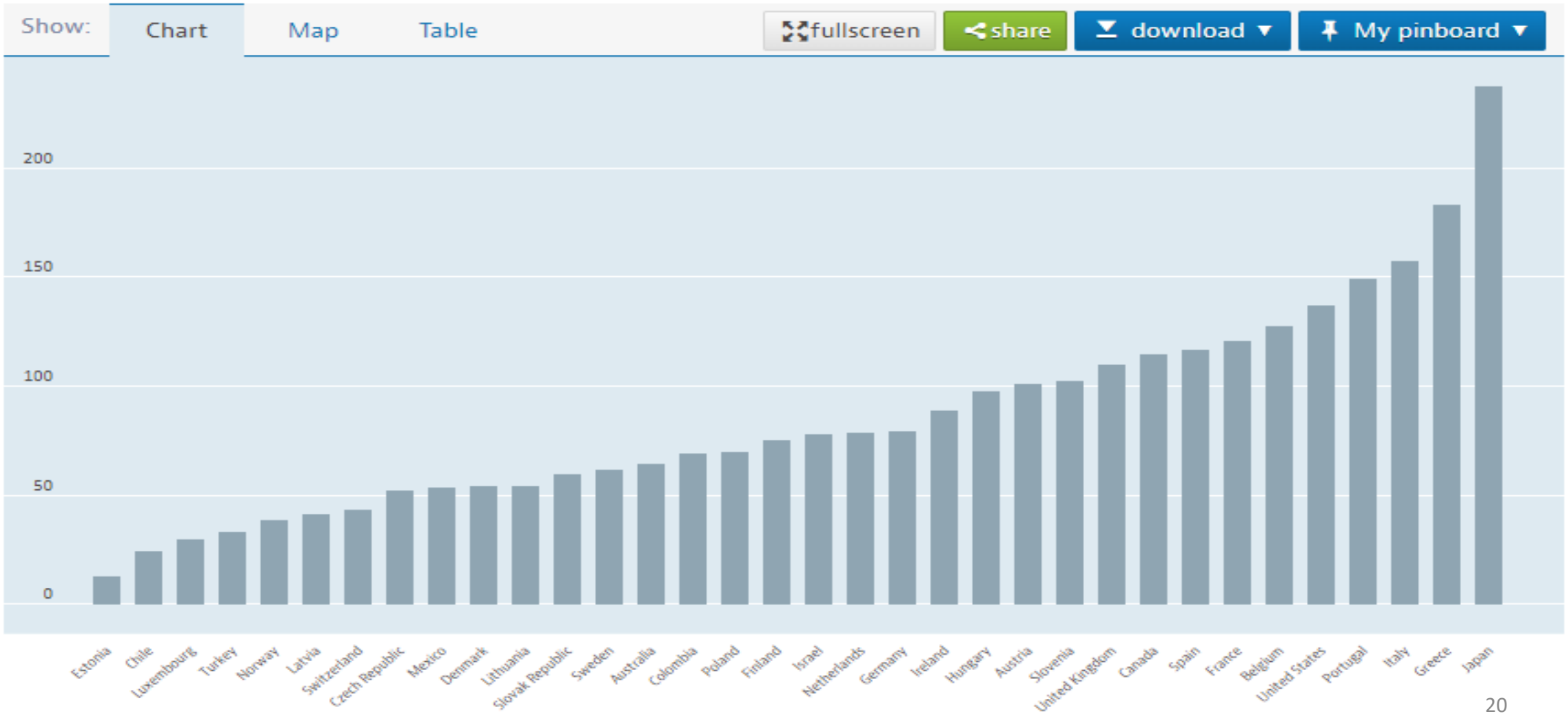
Can governments run deficits forever?

- When bonds mature, they must be repaid
- Future repayment means one or more of the following:
  - Increase taxes in future
  - Fed buys bonds and increases money supply (inflation)
  - Rolling over debt by issuing even more bonds to pay off current ones, plus interest
- **All government spending must be paid for by current taxes, future taxes, or inflation taxes**
  - There is no "free lunch"
- Will lenders be willing to roll over debt forever?

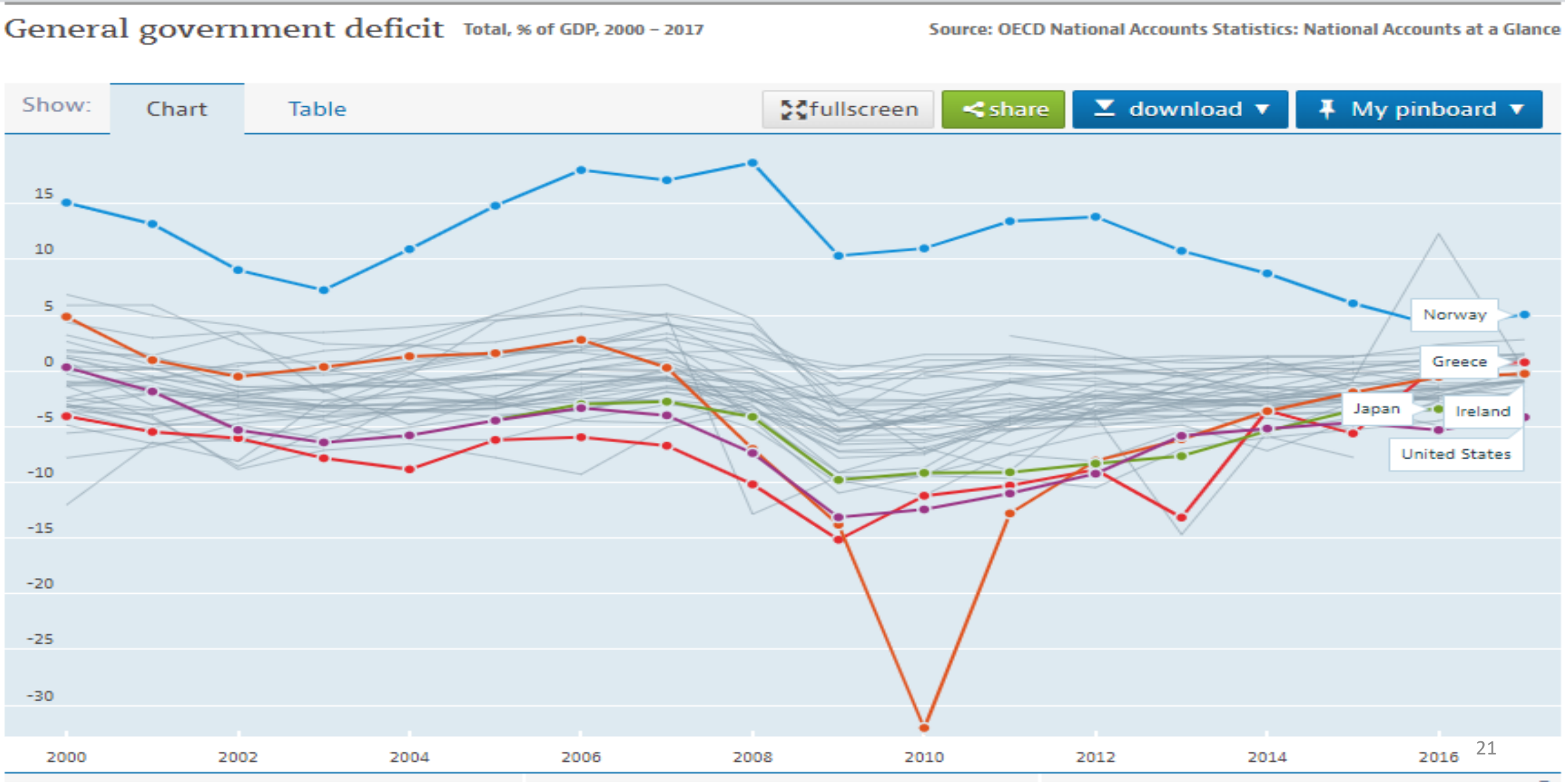
What limits the size of government debt?

- People are willing to buy private bonds as long as they are confident that borrower can and will repay … same for governments
- What determines government's ability to repay?
  - GDP and ability/willingness to collect taxes effectively
- How much debt is too much?
  - More than people are willing to hold
  - Rising debt → rising interest rates?
- Traditional rule of thumb: 60% of GDP is manageable net debt for advanced countries
  - **Net debt** is bonds not held by other government agencies (*e.g.*, Fed)

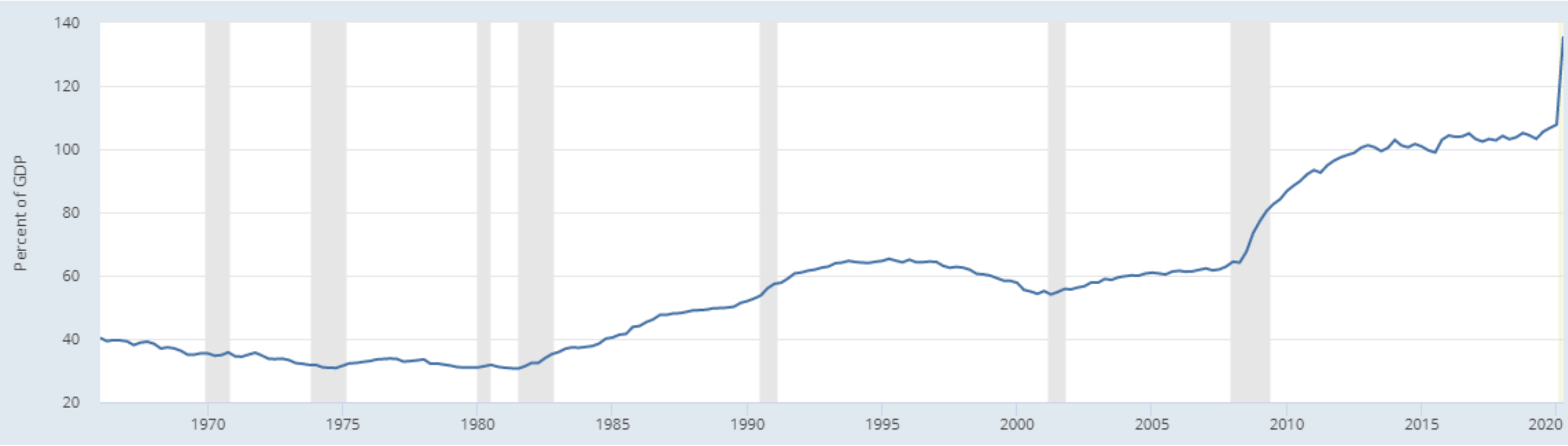
Gross debt/GDP by countries, 2015



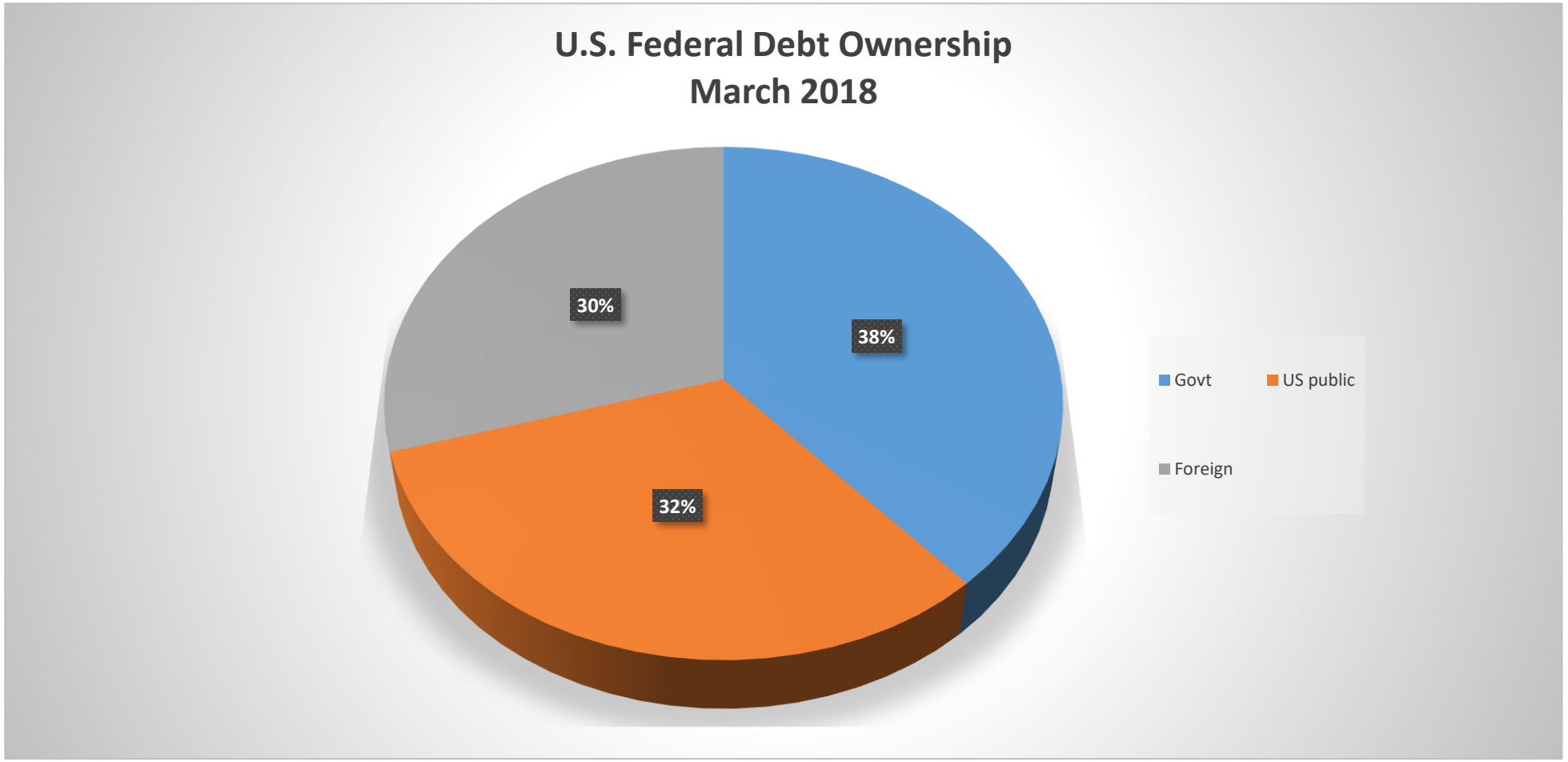
Government surplus/GDP by countries, 2000 – 17



U.S. gross debt/GDP, 1966 – 2020



Ownership of U.S. federal debt, 2018



Review

- Stabilization policy aims to keep actual GDP near natural GDP
  - Can help get to full employment more quickly, but also has risks
- Demand for money depends on income (+) and interest rate (–)
- Asset-holding equilibrium occurs where demand and supply of money are equal
- Government can change spending or net taxes to effect fiscal policy
  - Fiscal expansion can have multiplier effect on overall aggregate demand
- Government spending must be paid for … eventually
- Increases in debt can be sustained as long as people are willing to buy bonds

Daily diversion

Lest you think that *any* subject was too trivial for economists' attention, I present the following introduction to a published article:

"The Economics of Brushing Teeth," Alan S. Blinder

The ever-growing literature on human capital has long recognized that the scope of the theory extends well beyond the traditional analysis of schooling and on-the-job training. Migration, maintenance of health, crime and punishment, even marriage and suicide are all decisions which can be useful considered from the human-capital point of view. Yet economists have ignored the analysis of an important class of activities which can and should be brought within the purview of the theory. A prime example of this class is brushing teeth.

Read the rest at https://www.jstor.org/stable/1837155

What comes next?

- Wednesday is our final class on the basics of macroeconomic theory, covering tradeoffs between unemployment and inflation: the Phillips curve
- Problem Set #8 is due on Wednesday
- Friday's class will discuss the 2008 financial crisis and the ensuing Great Recession