Discussion Handout #9
Econ 102
Prof. Eudey

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John's Tips for Exam Review

1. Do all of the old exams posted on Learn@UW
   - Don't just look at the answer keys!! Actually try to take the exam.
   - Make your cheat sheet first, and see how well it helps you when you do the old exams.
2. Check out the 'Exam content' and 'FAQ' section on Learn@UW
3. **Extra Office hours:** 2:30-5:00pm Wednesday 11/9, SSCI 7481

Goals for this session

- Present Value Calculation
- Volatility
- Financial Intermediary Malfunction (Cause of housing crisis, and government response)

Vocab/Definitions

- Marginal Product of Capital (MPK) Firms buy capital goods until MPK equals the marginal cost. In other words, until MPK=r. MPK is decreasing as you increase capital spending.
- Q-theory Q-ratio= Stock Price / Assets. The idea is that there is some equilibrium value for this ratio. If the stock price is way higher than the value of a company's assets, then that company is expected to increase investment spending (i.e. buy more assets) until the Q-ratio is back in equilibrium. In sum: High stock prices lead to high investment. Low stock prices lead to low investment. (you don't need to know the ratio, only this final conclusion.)
- Moral Hazard When someone takes risks because they don't bear the costs of those risks. For example if you get iphone damage protection, you don't use a case and are more careless since screen breakage is covered!
- Collateralized Debt Obligation (CDO) Loans that have collateral. MORTGAGES!
- Morgage Backed Security (MBS) A group of mortgages that are pooled together into a financial asset called a 'security', in order to reduce risk.
- Credit Default Swap Insurance policy, so if enough mortgages in an MBS fail, the insurer will pay out money to whoever purchased a credit default swap.

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Problems

1. You buy a 1 year bond with face value of \$105 for \$100. What is the implied prevailing interest rate? (1+r)=105/100. r=.05 or 5% interest rate.

   There is an exogenous shock which causes the prevailing interest rate to change to 3%. What is the present value of your bond? How much could you sell it for on the secondary market? The amount you can sell it for is the same as the 'present value'. PV=105/(1+.03) i.e. PV = \$101.94

2. Consumption is ∼70% of GDP, Investment is ∼17%. Which category has a bigger effect on fluctuations to GDP during business cycles? INVESTMENT

3. Investment spending is **(pro-cyclical/counter-cyclical)**. pro-cyclical! Investment is high during booms, and low during recessions.

4. Financial Malfunction and the Great Recession:

   - Prelude: What is a simple example of when individuals are acting in the best interest, but it is bad for the group as a whole? Bank Run: Say that people have all of their savings in one bank, and they hear that the bank made some risky loans that went bad, and don't have enough money to cover all of the savings people have with them. What is the individual response? Rush to the bank and pull out your money. Before everyone can pull out their money, however, the bank runs out of money and goes bankrupt. However, if everyone had confidence in the bank and did not rush to pull out their money, in the long run the bank could have been able to continue running and probably be ok. Another example from micro: tragedy of the commons. As we will discuss in the next bullet points, a similar type of situation occured in the housing crisis, where everyone was acting in their best interest but it was bad for the group as a whole.
   - Who are the relevant 'actors' in the financial crisis? Individuals (home-owners), local banks (make mortgages), Big banks (securitize mortgages), Insurance Companies (Credit default swap), Investors.
   - What were the incentives of each of these 'actors'? What were they doing in the lead up to the housing crisis?
     - Homebuyers: wanted to buy a home.
     - Local banks: Extended loans (mortgages) to homebuyers, sold these mortgages immediately to big banks to absolve themself of the risk.
     - Big banks: Bought mortgages (CDOs) from smaller banks. Pooled mortgages together to try and spread risk (securitization into MBSs). Sold these MBSs to investors.
     - Insurance companies: Sold insurance policies (Credit default swaps) on the securitized mortgages. They were willing to compensate people if the mortgages failed.
     - Investors: Bought either credit default swaps, or MBS. People all over the world bought these assets.
   - Why did these financial markets malfunction? Demand for MBS was very very high. So local banks looked to issue as many loans as possible. They ran out of good people to lend money to, so they turned to lending to SUBPRIME borrowers with "Ninja" loans (no income no job no assets). Investors and insurers did not understand

how risky the MBSs were. When people started defaulting, Investors lost a ton of money on their MBS, and also AIG was hammered due to the credit default swaps it had issued. The big idea is that financial markets totally siezed up and weren't functioning correctly after the system imploded. This would be a negative shock to I and C, since people and businesses who normally could have gotten loans, now could not since the system was being hammered by the housing crisis.

5. Keynesian vs. Neoclassical and the Great Recession

   (a) What aspects of the great recession seem most like
   BIG Idea: Keynesian view: Shocks to AD cause business cycles (recessions). Classical view: Shocks to Tech and Capital, cause business cycles.

   See these two resources on Learn@UW for more:

   - "Some Notes on Keynesian vs. Neo-classical" - text document comparing analysis of the great recession
   - "keynesian vs classical graph" - A graphical version of what is described in #1. (note that you will NOT be asked to graph long run adjustments on the exam)

   - Classical Business Cycles? Fall in lending means investment falls, and thus a lower capital stock. (AD shifts left, also LRAS shifts left) This in turn means demand for labor shifts left since businesses are less productive. L falls, and real wages fall. Consumption also falls. This is considered a new 'equilibrium'. In the data all of this occured but real wages fell only for the non-wealthy.
   - Keynesian Business Cycles? Again, banks failed so I and C fell. Leftward shift in AD (no shift to LRAS). In response firms cut employment. Real wages rise. In the data this all occured but wages only rose for the rich. Keynesian multiplier had empirical data for both possibilities.

   (b) Fiscal policy response

   - Classical fiscal policy response? Invest in infrastructure, R&D, tax cuts to induce investment. (i.e. try to improve productivity, boost tech and capital)
   - Keynesian fiscal policy response? Increase G - i.e. unemployment benefit, ready-work projects... (i.e. try to boost AD)