

## **EEP100: Lecture 10 (Sep 29, 2009)**

### **David Zetland**

Happy Tuesday. Hope you had a good weekend.

Our hardworking GSIs have gotten most of the grading done, so you'll be getting your stuff back on Thursday. The bad news is that you'll be getting Homework 2 on Thursday. The good news is that is 2 out of 3 of your homeworks.

The reason that I'm pushing to get homework 1 and 2 done now is that you'll have them before the midterm, and my ideological goal is that most of the math that you face will be before the midterm and on the midterm.

After that we're going to be doing a lot more case study type of economic discussion. So we'll talk about fisheries. I listened to...I'll get to Damien's thing. I listened to Damien's lecture about transportation yesterday (I'm behind also). So that kind of discussion and brainstorming and what's going on here, and what are the incentives and very holistic picture is very helpful to understanding how the world works. And that's what I want to get to as well. And Damien was lucky enough to jump right into it. But once we get past some of these basic tools of economics and mathematics and analysis, then hopefully you will get to do this type of stuff as well.

That is, obviously, what you're doing right now. Your first stab at (well not your first stab, but in this class) your blogposts. You're trying to give a holistic idea of how things fit together. Just in terms of what's going on with the blogpost—I've gotten about 20. And I suppose that's 20 out of 90 for people that want those 10 points. Blogposts have already been sent in. As I mentioned numerous times, I will not read, approve, vet, analyze, do anything with your blogpost. The only thing I want is an e-mail. And in the e-mail, there will be text. There will be a bottom line. And I want the words "bottom line" and a colon and stuff. And what is meant to go here is the takeaway message, right? The thing that you want your grandmother to know. If your grandmother is going to figure out why you said that, then she will read this text, right? That's what a bottom line is. The bottom line is not..."The bottom line is this is the end of my post." That's not a bottom line.

If you give me a title, that'd be awesome. If you don't I'll make one up. It won't be a nasty title. It'll just be whatever I feel like kind of fits. And I might be happy to make up a good title, I might be lazy and it'll be a crappy title. So if you'd like a title, send me a title.

So all I'll do is...I'll get it, I'll say, "I got it" (because I'll look and see—is there a text? Is there a bottom line?). That means I got it. And I'll put it aside, and then I'm going to randomly publish these starting October 2<sup>nd</sup>. So there'll be roughly two a day for forty-five days in a row.

The e-mail address that it comes from will be the e-mail address that's linked to your name. And on my blog I'll add a little thing to the top, and I'll say, "John Doe says: dot

dot dot”, and that’ll be it. It’s basically cut and paste. Now some of you (this is another note) have been putting references at the bottom. I will probably just stick the references at the bottom. But if you want a link to a particular statement like, “Cats are good” then put a link in that text, so I can hyperlink to that sentence, okay? If you’re trying to substantiate a statement. If you’re just going to say, “References: Wikipedia” that doesn’t help anybody, right? I went to Wikipedia and I learned some stuff.

So you have to have an actual link. If you don’t have any references or anything like that, that’s fine, but it’s just considered good manners to put in references. Any questions about the blog post?

*How does the scoring go? If somebody slams your post, then...*

Doesn’t matter. You get your points. You just look like an idiot.

So this is the difference between intrinsic and extrinsic motivation, which I told you before. And earlier I said, “Look, if you guys want to walk out of an economics class and you want to know economics, then your blogpost should make sense. If you look like an idiot, then you’re not really good at economics, right?”

So my job is to help you get better economics, which unfortunately means practice, homeworks, midterms, blogposts. Later in the quarter you will be doing briefings; those will be much higher quality. And if you didn’t know it already, you will be doing each other’s briefings. So it’s going to be: “My classmate wrote this awesome briefing. I will give them good points”. Or... “They suck and I will give them bad points”. So keep in mind that your economic analysis shall be improving hopefully through practice and through time. Any other questions on that stuff?

*The blogpost doesn’t have to be about natural resource economics right?*

Nope, it can be about anything with economic analysis attached to it. I’m writing a post on Putin right now, who is one of my least favorite politicians, and so that’s political economy (oh, well, natural resources—oil, so I get to call that my expertise.)

Office hours today at 12:30. On Thursday I’m going to be moving (I’m sorry I keep moving my office hours around) but I’m moving it to 3pm from 3:30, if that matters. Thursday...oh...I’ll be handing out the homework that day, so that means you might have a question. So just keep that in mind. One half hour earlier.

Let me go over some things that came up in office hours (under the logistical tag). And this is just a simple thing to keep in mind that may not be clear the first time.

So what’s the difference between these two figures? This is one of those pattern recognition tests, the SAT.

*Is the right one like...more combined...like aggregate market? I mean...*

Perfect. That's actually good. That's big Q, right? This is an individual firm. And this is the market. Now the market can be composed of an infinite number of perfectly competitive firms. So the firms that are facing the market may have a demand curve that's shaped like this, but a supply curve that's shaped like that, because they are price takers. Remember that?

So when we aggregate all of them together, the market looks like this. But none of these firms are actually making a decision that affects price, okay? So if you take an infinite number of these guys...or I should say that if you take an infinite number of *these* guys, okay?

Oh no that's wrong. An infinite number of *these* guys, and you put them together, you're going to get an aggregate market. And supply and demand...in a fairly passive way you've got equilibrium price and equilibrium quantity. And they're codetermined, right? Price and quantity.

Over here, for the individual firm, they have an upward sloping...they face a downward sloping demand curve. And this could be the entire market for a firm. This monopoly situation—now this is the demand capacity for the whole market. And this particular firm, if it acts like a profit maximizing monopolist, will do what... in terms of doing what? Decision making. What happens in the head office? Yeah?

*Produce where MR equals MC.*

Right. Produce where MR equals MC. Is that right here? No. where is that? Is that right here? Kind of. Is this the price or the quantity here?

*Quantity.*

Quantity, awesome. There's price and that's Qm. So I could draw that right next to that on a test, for example, and say what's the difference?

And you'll say, "Oh look, pay attention to the axis." This is where axis labeling really does matter. It depends what the firm is facing. Alright, so that's just a note.

Another note of a more philosophical nature is why are we doing so much of this math. Why are we doing math when we're trying to do economics? Is this really just confusing to do...is this confusing...or is it helpful?

These are the same thing here. The reason that we're going back and forth between the math and the math...either the algebra or the figures (the graphics) is because we're trying to do, "I like more" right? But we want to have a reasonably concise way of doing "I like more" and this, for some people, is more concise than this.

This is actually more concise. It's more communicative for some people. It's easier to understand this because I like more and more to a less and less degree. Increasing at a decreasing rate. So the use of mathematics in economics is not meant to torture you, it's just meant to be a way of working with the concepts, so that they're clearly communicated. It may seem to be the opposite of clearly

communicated when you see all this math, and you're trying to do optimization, but this is the goal. So I'm sorry that it's not the most obvious thing sometimes for some people, but over time when you're working with it you should be able to...remember, who saw the matrix? Remember when they're looking at the screen and the letters are falling down? And they're like, "Oh I can..."

And after awhile you can see reality through the letters? Some of you are still seeing these letters and saying, "What the hell is going on here?"

But this should be...after a while you'll be like, "Oh yeah, people like more." Okay?

You'll see through the math. I'm not trying to put so much math so you can't see through it. That's the idea. A minimal amount of math so you see through it, and you say, "Oh I see what's going on here."

Now if I write this on the board and say it's my utility function, is that a good thing or a bad thing to write down? It's a bad thing. What does it look like?

Concave up, right? This is not a very good shape for utility function, because it implies the more you have, the more you like the more you have. It's not common to find anybody in that situation. In fact, what this utility function implies is that the demand function does what? What happens to demand of that utility function? It slopes up. The higher the price, the more I want. That's kind of weird, except for those bling things I talked about before. There can be something about psychology involved, but generally speaking, this is not a viable expression of preferences (of economic preferences).

*When we talk about a luxury good, can we use that?*

Not really. Who owns a luxury purse (girls)...those Guccis or LVs or whatever they are? Or the rip off Guccis or LVs? Does anybody own one because you're all still students? Do you have two? Do you have three? Do you have four? No, it's like, maybe one's enough, right?

Even Vanelda Marcos ran out of shoe space, so she's like 1200 pairs of shoes, that's plenty enough for me.

So luxury items...the demand for luxury items slopes down, just like any other demand, but it tends to...what happens to the demand for luxury items with...what happens with that? In terms of...

What's the difference between a luxury item and ramen? Here's a demand curve for LV purses, and here's the demand curve for ramen. Why are they different? How are they different?

*[Inaudible]*

Right, so your budget increases, ramen shifts in...and?

The LV demand curve shifts out right? Because this is the relationship between price and quantity, holding income constant. If Louis Vuitton bags are luxury goods, then the definition is income elasticity is positive with luxury goods, and it's negative with inferior goods. Right? So that's the answer to your question.

*Is income elasticity automatically zero in a normal good? Because it's not inferior or...*

I think it's...it would not tend to be zero. I think it would be...well yeah it could be. Well the definition is, as your income goes up, I think the income elasticity (change in quantity over change in income times income over quantity). And it's defined as... I think it's around one isn't it? In normal goods, I think the income elasticity is one.

Right, as your income goes up by one, your demand for a normal good goes up by one. Or it goes up by more than one. It goes up by more than one, so more than one percent. And less than one percent for inferior good. So it's one, not zero. Zero means no response. Right? That would be wrong, I think.

*Is there any commodity that would look like that?*

In this class, no. It won't be on the exam. I can't think of a good example, if you can, great, send me an email?

*What about utility of just wealth?*

Utility of wealth...this is an interesting question. Economists always assume that you get utility from the things money buys, not from the money itself. But you can have...it's an interesting question...is a billionaire a thousand times happier than a millionaire? That would be...in fact even more than a 1000 times happier than a millionaire, right? That would be this kind of utility function. There's some interesting in development economics of threshold effect...once the country's income crosses about 10,000 dollars, it seems that the connection between wealth and happiness is not so strong. It used to be zero, but now it's like wait...I guess there is a connection. But I think that money (if this is money) just the pure dollars in your bank account is one of these things still.

*Would you apply drugs to that graph?*

Like addiction? Probably no also. Because that first hit is what the addict wants. Usually they're out, right? Till the next hit. But the idea of drugs is that they create their own demand. So what you're having there is your demand is like this the first time you try it, and then it goes out. Because your tastes are endogenous in this situation. The more you use, the more you like what you're using.

*Would a product like laundry detergent or toothpaste have an income elasticity of zero?*

In a sense that you'll never use more of it?

*Yeah*

Well, it depends. If you're talking about like...what kind of laundry detergent is it? Is it tide, is it ultraclean bright? Or is it Walmart's discount dog food, right?

So you're shifting between products. Within that product class, maybe we do consume more laundry detergent.

*Would that product class have a name?*

No...I don't know. Well, you're either talking about inferior goods or normal goods, right? So Walmart laundry detergent is an inferior good in a sense that as you get richer, you get brighter and brighter detergent, right? After awhile, you send your underwear to drycleaners because you can't be bothered. If you break one class into smaller classes then you start playing around with what's inferior versus what's normal. Does that make sense? Any other questions?

*Couldn't that happen, like do nothing the entire graph, but after that inflection point, [inaudible] you don't benefit from having a small quantity up to a certain point you benefit a lot more from having...?*

You don't benefit from having small quantity, what does that mean?

*Like, say...*

Your utility from the first several units is zero,

*Or just like relatively low, and at a certain point...from each additional unit you start to gain more from having an additional unit. Like...it becomes more useful. Like there's some sort of...*

It's like socks?

*Something that benefits from having more...*

*What if you have like...somebody was giving out individual playing cards or something? Like there's a deck of 52, right?*

What are playing cards? What kind of good is a playing card? A king of hearts, what kind of good is that card?

*Substitute?*

No, is a King of Hearts the same as the King of Spades? Is it exactly the same?

No

No. A deck of cards is a 52-dimension set of complements, right? Plus the jokers.

*Let's say somebody's doing a lot of drugs and they take 2 or 3 hits, and they don't get that much of an effect and then after more they start to...*

That's production function that you're dealing with. That's decreasing...no wait. That's a threshold effect. You need to get over a certain amount...so your utility is low, and then it will go up at a decreasing rate. Which technically is cool; you can't do calculus around here, but that's all right.

*So you're saying there's not a good where it will get bigger at a certain point?*

Yeah it's hard...I can't think of one. I mean, I can take apart any example you guys come up with.

*Maybe like some plant, if you're a farmer, just some plant in your garden, then you get to a point where you can't farm a large amount of food, and you get to a point where you can't do much more with the labor.*

Yeah, but now your changing the definition of what the product is. Is it land for garden? So this is my garden utility versus my farming utility. But I'm not trying to deconstruct everything that you're saying, but let's just do it this way: if you do deconstruct it you can still use that.

Look for a way for it to fit to that, and you can usually. I'm hard pressed to find a way you can't.

*What about a collector's item in general where the 5<sup>th</sup> item is worth much more than the 1<sup>st</sup>, and so the 10<sup>th</sup>...*

But why is the 5<sup>th</sup> item worth more? Is it a set?

*No, it's not a set. Like...you just get pleasure from getting more and more. The more you have then...maybe somebody is willing to pay for his 20<sup>th</sup> collection of cards, willing to pay more than his 5<sup>th</sup> collection...*

I doubt that. Now the order of acquisition of the card may matter, but when you ask someone about their baseball card collections...it's like, "What's your best card?" "This card."

Now you start drawing your demand function. Hank Garren (whatever it is...39) all the way down to Mel...Gibson or whatever. Some useless baseball player, right? You have a downward sloping demand function, which is your utility function we're talking about.

This is great; let's get off this topic. This is too fun.

So let's get back to annoying things. So I listened to Damien's chitchat on transportation. It was very interesting. Two questions that came up in my mind: One was this \$68 per semester cost of the...what's this thing called? The fast pass? The class pass?

The survey says that there's about 12 people or 15 people that ride the bus. Let's just say that that's representative. Let's just say 20% of the population of Berkeley

rides the bus. Why would 88%, or 51% even, vote for the class pass? Why? I'm just throwing it out there. I'm not doing economics. Anybody?

*Well I think that 20% of the population relies heavily on the bus. And the other 60%...it's like you're walking on Telegraph and the number one comes, you're just going to hop on it. but if the number one doesn't come....*

You keep walking.

*Yeah.*

Alright, so the idea is that it's worth paying \$140 a year for the opportunity to jump on the bus if it should come by. And save yourself a dollar. So it happens 140 times a year, or more, right?

*I think what it was...was the 20% was people who used the class pass to get to Berkeley, and that was a lot more than the people who actually do use the bus pass to the point that it's worth \$68 a semester.*

To go between your house and somewhere else?

*Yeah, just going around Berkeley in general but not necessarily commuting.*

Okay so it could be more than just that 20. Who uses the class pass at all during the semester? Okay that's much more interesting. Who feels like they get \$68 of value out of that class pass? Okay, well that explains it. Any other questions?

*I was going to say maybe when they had to vote all the people who really wanted the class pass showed up...*

Yes. Absolutely. That's a big deal. The people who really cared did show up. This whole...in the book...when you read *The Logic of Collective Action*, you'll definitely see that effect. This is called interest group politics, right? You might have heard of that.

*But the other...because I thought about it and I calculated and I was like well...I'm actually paying more than I'm getting, but I don't mind because it's going to AC Transit. [An organization we all love] So I look at it...*

He said, "I got a \$250 ticket and got out of it" and I got a \$250 ticket and didn't get out of it. And it's the same stupid ATM machine. And there's no bus stop there anymore.

*It's a public transport company. Whereas if it went to Coca Cola...*

Evil. Public companies. Like Apple. And those iPod things. They're horrible. We should ban them. Get the Zune. Everybody should get the Zune. *[Laughter]* Oh no wait, that's Microsoft. They're more evil. Okay. Any other observations on the political economy of \$68?

*My parents pay around \$4000 a semester for tuition anyways, so it's like a \$68...*

Mom, Dad, go for it! It's not your money! Okay, that's actually really important. Who is paying, right? And even student loans...it's like whatever, I'll pay it later. But the other thing also is that if the majority votes to tax you, then you kind of don't have an option, right? Because the class pass is funded, right? It's an automatic fee? You don't get to opt out. So now it's like...now it's free.

*I think you can actually opt out.*

You can?

*I think you can go over there and talk to them and I think they give you a check back*

Give me my \$68 back? How much of the \$68 do you get back? I want to see... somebody tell me if that's true. Yes? No? No.

*I think it's also the convenience of it*

Well the convenience factor is much different. Anybody can buy a pass.

*Wouldn't that take utility though?*

No, no I'm talking about you could've bought a pass on the side.

*You still have to get your Cal1 Card and get the sticker.*

Right. That's once per semester or once per year?

*Once per semester.*

Once per semester right? But that's not per month, so you're right, it's a transaction cost (we'll get to transaction costs).

*What that means is like your class pass is attached to your student ID, so you don't have to carry around a separate card...as opposed to using that monthly pass.*

Right, so this is interesting. AC Transit is not interested in offering a semester class that is not a class pass. They could. They could call it a "not-class pass that you pay for". But...did I get this right...2/3 of that \$68 does not go to AC transit?

*He said it goes to some kind of financial aid.*

Financial aid. Which is like "wooo" black hole. And what is that? You guys are out there protesting stuff, right? Protest that. Where the hell is my money going? It went from \$18 or something to \$68, and wow, 1/3 of 68 is about \$23 dollars or whatever. So someone out there has got a whole pile of money coming in. Now that brings up (what I call) the political economy of taxes, which is once a tax shows up, it almost never, ever, ever goes away.

Once they got you, then it's never going to go away. I've got two examples of that. One of them is my favorite of all time, is the tax on telephones to pay for the Spanish American War. When was the Spanish American War? 1898. When did the tax on telephones pay for the Spanish American War end?

*Never.*

*Tax on telephones in what sense?*

Like if you own a [Phone brand], you pay 52 cents a month. For the Spanish American War. For 100 years. And someone's like... "Yo, we paid for this like 10 times over." And that was the problem. They had paid for it by 1920, but they just kept it rolling in. If you look at a regulated phone bill and it's got all these 62 line items...even your cell phone bill is crazy, right? What does this mean?

And this is the logic of collective action. Maybe the tax on your bill was 52 cents. Okay, \$6 a year. What's my time worth? Even at minimum wage it's worth \$6 an hour. Maybe it's going to take me an hour and a half to look this up and figure it out or whatever, so I'm not going to do this?

But if you multiply \$6 by 600 million citizens, or let's call it 100 million phone connections, boy now we're talking real money.

*[Why is it \$6]*

That's the annual cost of tax at 52 cents. I just threw that number out there. Just saying. 50 cents a month...that's nothing. But once you scale it up it starts to get big. 600 million dollars. You can give 10% of that to...you know...several busloads of lawyers to knock that thing down and still keep 95% of the benefit. So this is the problem of collective action, which is the marginal benefit to the person that is acting (anyone of you, \$6) is less than the marginal cost which is...let's just call it \$12. It'll take you hours to go to congress and fight it and throw down the tax.

In economic terms, marginal benefit, marginal cost, what should we be doing? What's the economically rational thing to do? Do nothing, right? You go find a couple of friends, you organize your own special little interest group, and then you go do it, right? But worse than that, it's like wow. It only takes three of us to get a good cost benefit ratio. Well let's let someone else do it. Let's just put an advertisement on Craigslist and "Please help me, go work for me." And I'll benefit from it. You will too, but you do it first. Right? What's that called in economics? The jargon? You have a homework group of three people. Two people do all the work. The third person is a what?

*A freerider.*

Freerider. Just like that. Okay? This is the problem with collective action. How do you take care of free riders? In homework groups, you kick them out. But in political economy stuff, it's much more difficult. Someone had a hand up? No? Alright

Someone asked in the audio (I think it might have been you, but I'm not sure)...what about the fixed cost of setting up the network? No? Yeah? No? Somebody, whatever. And what about the fixed cost of setting up the AC Transit? Is that small or large? Anybody know how much those bendy buses cost?

Like easy 100K, right? How much do drivers cost a year? You know BART drivers make \$40 an hour. To drive a train, on tracks, that goes in one direction.

I mean a bus driver, there's a challenge. There's no bikes in the way...

*They actually don't even drive the train.*

They don't even drive the train! They just sit there and...they don't even tell good jokes! They suck! Sometimes.

So you've got a cost of a bus. But you've got the system map, and you've got some... (and anybody who's going into urban planning will be like, "Cool! Urban planning job!" Right? "Oh we should go from here to here." "Why?" "Because I think so.")

So there's this huge cost of setting up the network. You know you've got to do the study, you've got to do the traffic reports, you've got to buy the drivers, you've got to get the busses, you've got this huge administrative group. You've got to have ticket sellers and ticket printers and accountants and all kinds of stuff. So the fixed cost of operating the AC Transit is huge. If anybody does this on a blogpost. You just got to their website and get their annual report. It'd be awesome. I bet it's probably...if you take busses into account, what are marginal costs? What are variable costs for busses? What's the variable cost?

*Gas*

Gas.

*Maintenance.*

Maintenance, what else?

*Upkeep.*

Maintenance.

*Wages.*

Wages...yeah the drivers are kind of a little bit fixed, a little bit variable. We could call them variable in a sense...but then you'd shut down the whole network, right?

So let's just put that into a sunk fixed cost because I wouldn't be surprised if the drivers were union. And the biggest growth in the union since World War II has been in the public sector or the private sector?

*Public.*

Public sector right? Surprisingly there's no competition in the public sector, so why not unionize, right? If fixed costs are 70 plus percent, then I'm guessing...then you just want to throw a bunch of riders on there because the marginal costs are going to be quite low compared to the revenue. Right? Fixed costs, 70%. Revenue, 0. You might as well take some passengers on to get some money back. But here's what I'm getting at. Is this network actually efficient at meeting passenger needs?

Who's trying to take the bus sometimes, and it's not going from point A to point B, where they want to go...that's happened right?

The whole Vacaville dialogue. The 3 hours from Vacaville...take my car. That's very rational, right? But interestingly, what's the alternative in terms of public transportation to the bus? What could be?

*Rideshare?*

Rideshare. So you kind of have to show up at a corner and hope that you can get around town, right? A bit tricky...very tricky...

*Around Berkeley? Or...*

Around Berkeley, Oakland, Richmond.

*Bike.*

Bike...public transport, kind of. Individual transport. But what does a bike do? A bike is very efficient for getting from where you want to be to where you want to be. Right? You can walk, you can bike, or you can take a car. Taxi? Why not take a taxi?

*Expensive.*

Expensive? Why are taxis expensive? Did you know that there's a limit on the number of taxi licenses in Berkeley? So has anybody ever been to a country where they have deregulated [*inaudible*] or busses? Dolnishes? In Turkey? Things like that? It's like...you go into the traffic, and it is insane because it's crazy, because everyone is driving around all over the place, but it only costs like 12 cents to take a taxi or share a taxi. That system is not allowed in many, many parts of the developed world, right?

We want our nice, orderly, mapped out system that somebody with a PhD in Urban Planning figured out that is good for you, and you, and you, and you, and "I know exactly what you need." And unfortunately, "I know exactly what you need" means that you don't get what you want, and what you do get costs a lot of money. So this is a counterexample. This is a really sad example of the public transport system in Santiago in Chile.

Chile's like a really free market place if you follow politics. The Chicago school of economics—they've had a whole bunch of influence and they had this completely deregulated, third-world taxi market. Everybody's happy, costs are low. They

decided to make it more efficient and the costs went up, and the ride delay lengthened and people were less happy, and they lost crazy amounts of money. They didn't even make money, they lost money. So it's an example of the fiasco of central planning that happened only a couple years ago.

But it's all in the name of some kind of planning efficiency. And that is actually... what I'm getting at with the question of markets, right? The idea of...it's like do we want markets or do we want order?

*I think UC Davis has these school subsidized tipsy taxis that drive you from point A to a certain stop for 2 dollars.*

Right. What's the reason for that? I was there, I never took it. I was biking under the influence. What's the...a BUI, you can get a ticket. I have a friend that got a ticket for walking his bike because he had the potential to get on it. It was like...the cops in Davis have nothing to do. Unlike Berkeley. Although I did like Damien's comment. There's like 120 different parking violations that you can get in Berkeley. This place has too many parking rules.

Hold on one second I want to get to this question. So why are there tipsy taxis in Davis that are subsidized?

*They help pay for the tuition.*

Yeah, they pay for the tuition, and that's sources of it. But why subsidize the taxis for drunk people? Not for sober people?

*Public Safety?*

Right. I mean...what's the cost of a dead person? Very high. The cost of a person sober walking home...whatever, who cares, right?

*I think that's better than BearWalk...I don't know...*

What is BearWalk? Someone will walk you home. On their bike. So they have a bike? Oh so they can get to you.

*They're supposed to run away.*

What?

*Yeah, that's like their orders. To run away.*

All in the name of good fun.

*I have a friend who's a Bear Walk. They have a walkie-talkie to call the police and a flashlight. And that's all.*

It's someone to walk with you to make sure you don't get in trouble.

*Yeah. That's exactly...*

That's better than nothing.

*But they're supposed to be...you're supposed to call them if you're worried...*

Well...what I've seen drunk people do...not a good thing. So if they come up to you with a club and hit you in the head, that'd be fine with me.

*They also pick up after 11, so if you're at the library and you're like 5 blocks away, and it's like 2 in the morning, you get picked up...*

See, that's cool too. I mean that's like a public safety...I was...the whole "take back the night" thing, I've looked into that a long time ago. There's a whole industry called "safety from predators". Which is an interesting industry. It's more cost than benefit, let's just say it that way. But it does...I'm happy...I'm glad that it exists. The industrialization of it is like a military industrial complex. A little bit scary. Any more comments on that stuff? But they have the whole seminars and things like that. It's like NGOs and fundraising seminars on how to get more money.

So the thing about this is the efficiency of this plan system may be less than the efficiency of the other system, but politicians like it because they can point at it and say, "I organized this system."

Politicians cannot point at a bunch of bicycles and say, "I organized that." Politicians cannot point at a bunch of taxis and say, "I organized that." So they can take credit for something, even though it might suck because it's something that they can put their hands around. And that's the difference between markets versus...I'm going to write bureaucracy.

*So you mean free markets?*

Yeah...markets in a sense that individuals making decisions. Okay so it's like you go to the market, and you say I want to go get a yogurt, an orange, a ramen (because you're in an inferior goods situation). Or I, the central planner, decide on cafeteria food. You have this food today. And old school cafeteria food...it was like, it was that meal. You go to a cafeteria now it's like you have 600 choices, right? Because they have to compete, in a way, with all the fast food alternatives.

*Well I think the financial market...New York just came out with a really extensive article about the financial crisis and that's pretty much...*

No, that's not free market. That thing on the financial crisis is all about...number one, a whole bunch of regulators had no idea what they were doing, number two, a whole bunch of donors getting their money's worth in terms of bribery for their politicians, right? And number three...I don't even know what to say...all of our money going out the back door, right? It's not the same as free markets...I should talk more about that.

*But isn't the financial system not regulated?*

Oh my god, no it's totally regulated.

*Well, I mean it is, but there are parts of it that weren't...that's what the article was...*

Right. Okay this is an interesting aside. The biggest problem was when they found out that AIG was not regulated by anybody. AIG is American Insurance Group. The government paid something like 100 billion dollars so far...

*180 billion dollars of taxpayers' money.*

180 billion dollars to AIG to bail out a whole bunch of credit default swaps that were not regulated by anybody because AIG is an insurance company. What the hell were they doing in that kind of financial product?

Now. The problem was that there was a regulatory net, and they fell through it, right? Because there were no regulations at all, right? Then they would've just gone bankrupt. But then step back one step, and say to your game theory mind. It's like... wait a second. If I'm trying to make a deal with AIG, and they have 180 billion outstanding whatevers, and no one's going to back me up, do I want to make a deal with them?

*Well yeah, it's the same deal as moral hazard.*

No, it's not moral hazard. Moral hazard comes up when the buyer thinks the AIG seller is regulated and secure. Moral hazard is when AIG can say, "Yeah, yeah, we're backed up by the government."

And if there was no moral hazard risk, which...if AIG goes BK it's your problem, then you...I'd personally be like, "I don't want to do business with you. I don't understand what you're doing." Right? So the problem was the perception of regulation when there was nothing. In a free market, there would be no regulation. You would realize that there was no regulation, right?

It's like when you sell something and they give you a whole bunch of cash, hundred dollar bills? You're like whoa...check out the hundred dollar bills, right? Because you have to make sure they're real. They might be handing you counterfeit or something like that. Right? And that's buyer-beware. The buyer-beware, which is the old school, has been replaced by "regulator will take care of you."

The FDA says, "This pill will be good for me." Right? When it might not be. It might kill me or it could do nothing at all. The whole placebo type of problem. Question on that? So the markets (alright let me pass around this thing on markets). This is the Hayek reading that I told you guys you would be reading. And I suggest you read it kind of now. Not in class now, but between now and when I hand you the homework. It's only 12 pages, it's very easy to read. It was written in 1944, and it's also posted on the web in case you lose it or whatever...you want to send it to your friends. Oh my god this is so amazing. Then go ahead and do that.

But this paper is a very, very, very important paper. It's probably the most important paper as far as I'm concerned in economics, and it's about information. And basically he says, "you know, and you know, and you know, and you know, and you know stuff that I don't know. How will I find out what you know? I can ask you...but you may not even know what you know. I can guess, but I might make a mistake." That's the question of the central planner versus the individuals making decisions, okay?

And this paper is essentially the most devastating critique of bureaucracy and central planning. And it really is important because it helps you understand why markets are important, and why prices...a single price conveys a lot of information, right? The price of a gasoline (three dollars and whatever...5 cents) has a whole bunch of information. What's in the price of a gallon of gasoline? What does three dollars and five cents mean?

What does that mean? What does that represent? In terms of costs?

*Labor*

Labor...some guy to be at the gas station...what other labor?

*The people standing on the platform to drill for the oil.*

Someone on the oil platform. What else does it represent?

*Transportation costs.*

Transportation costs from Venezuela or wherever.

*Subsidies.*

Taxes and subsidies. There's taxes...explicit fuel taxes, subsidies that may not be reflected because they're lowering the price. Someone says that the cost should be... a barrel of oil should be \$300 to include the cost of military. What else?

*Political costs?*

Political costs. Political risks, right? Every time Nigeria has another explosion or a civil war the price of oil goes up and the price of gasoline goes up. That's a scarcity cost. What else? What else is a net price?

*Marketing.*

Marketing. You need gas, buy it. Or our gas. Not their gas. Because we have a tiger in our tank. What else? What else is in the price?

*Profit.*

Profit. Somewhere there's a profit. I think the profit on a gas station is like a penny on a gallon or something ridiculous. What else?

*The drilling permit?*

Drilling permit, capital costs.

*The value to consumer?*

The value to the consumer?

*Or how much the consumer values the profit.*

Now that wouldn't happen. Because that is...this is 3.05 right? All these costs that we're talking about are under here. In stylized way, this is the profit, right? I think the profit of a gallon of gasoline is not 50%. But this is the value of the consumer. Consumer surplus. What else?

*The time of the year.*

Time of the year? That's kind of a change in prices because of...part of transportation costs, processing costs, the snow made everything stop or whatever, if you're in Canada getting oil.

*Resource rents?*

Resource rents. Absolutely. This is kind of an absolute profit if there's a resource rent. That usually gets us to the...where stuff is coming from. Right? Or it's split between them and the people that are bribing them. Others? That's back to Russia. Okay? So this three dollars and five cents has a lot of information embedded in it. Right? The breakdown...who gets a penny here, who gets 22 cents here. The breakdown is not necessarily important, but the thing that's amazing is that those prices and costs...when you pay that money it all filters back to the system and rewards a whole bunch of people, essentially, for taking risks and running businesses so that the system keeps going on. What about...more on this?

*Yea, I mean the information...isn't that wrong? Isn't there a lot of information missing from the price?*

That's...well...ironically the first question is...is the cost of gas actually higher because of things like military subsidies, right? Or is it higher because of when you burn it? It has costs of pollution. Or when you refine it does it cause pollution? The big case that's been going back and forth in Ecuador, right? For anybody who's been following that.

*Is that called hidden costs?*

Oh, it's called externalities. It's externalities right? So externalities are not included in the price, they're externally priced. Those are externalities. But they can be quite large.

Now what if I go to the campus, and I buy a parking place...what do parking permits cost? Like \$300 a semester or something like that? 300? What information is embedded in this price? How did that price get set?

*The cost of land?*

The cost of land,

*Administrative costs?*

Administrative costs.

*Space?*

Space.

Let's say that the cost goes up to \$350 next year, next semester, whatever. Why is there a \$50 difference? The cost of land and space and administrative costs have gone up?

*Wouldn't they try to charge as much as they can and still sell...*

So the question...what I'm getting at here is important is that...the price of gasoline reflects the struggle between millions of producers and suppliers, demanders, competing gas firms over the cost of refining gas, moving around the world, merging with whatever, making it to California standards, bringing it to the gas station, selling it to you guys or some guy across the street. You see the gas stations across the street. Sometimes there's one penny right next to each other...sometimes it's like 50 times more and you're like what the hell is going on here?

*How come some of them cost more if you use a credit card?*

Well what's the obvious reason for that?

*Well I guess they don't want to like...incur a fee?*

The credit card company charges a fee, first of all. It collects 2 to 5 percent. Sometimes the most interesting example is you pay cash, and they just put it right in the drawer. They don't pay any taxes on that gas, right? More income. So cash discount can reflect several different things. Yeah?

So this price here is much more of an administrative price. Now nominally, it might represent cost of land, cost of administration, so supply and demand. But the easiest way to do supply and demand is to essentially have an auction market for parking permits. And then there will be an auction. The number of permits that we fix at is whatever it is...120 in one lot, and the top 120 bids for permits will win the permits, and that will be it. That's the price. Whatever the price ends up being. But these prices are set administratively, right?

I guess the protests and the walkout were...“We don’t like where you set the price. Set the price somewhere else.” “No! But we have teachers and administrators and janitors and land to pay for...”

So this price is actually being set through an administrative method. Right? Almost. It can’t be arbitrary. These are completely arbitrary questions. My favorite example of that is when I was in Cuba, breaking the law, and they had rum. And they had 7 year old rum for \$3 a bottle, and they had 5 year old rum for \$5 a bottle. And the rule with rum is that the older it is, the more it costs. But in Cuba, it was upside down. Why was it upside down? Somebody screwed up. They put the wrong number in. All of the rum in Cuba, in cash stores, is sold by the government. They’re like, “Oops.” And I go into the store and I’m like, “I’ll buy that one. That’s more expensive.” He’s like no, no senior, you want this one. This is better. Why? This one’s better...the price is fucked up, right? So Fidel’s not good at business. This is notoriously well-known. Right? So this is an example of an upside down price. This is essentially someone making a mistake. But administrative pricing can be really wrong, right? And competitive pricing can be really right. And you have to worry about externalities, but you have to worry about externalities for administrative prices as well. But thing is that people like administrative pricing. This is having control. It’s like, “I know I’m going to set the price.” And people are going to...

Say that U2 came to give a concert at Berkeley. And U2 demands that the prices be \$10 a ticket. How many students are going to be in line for that ticket? I’ll be in line. How many people are going to be in line for that stadium, or whatever? Thousands and thousands and thousands and thousands. In fact, The Boss did this. He made a small economic mistake. He’s like, “I want to sell tickets cheap for my fans.” So he was selling tickets for \$70. What was the black market price for those tickets? He wanted to save his fans a bunch of money. All the scalpers bought up all the tickets. Then the fans paid \$700. Right? He’s trying to do the right thing, but he doesn’t get the supply and demand thing.

*Who was that?*

Bruce Springsteen. The Boss.

*Isn’t that how the Dalai Lama event happened, how it ended up? Because the Dalai Lama came...*

It might have been free or something like that? I don’t know

*I think it was like \$18. And students had to like...*

In Berkeley? Yeah.

*And people had to sleep on the streets...*

And they probably sold it to people who live over there in Gourmet Ghetto. It’s like, “Oh my god the Dalai Lama my guru!” Touch his feet. He’s a cool guy, but like... you know...how did he...there’s different ways of doing the pricing. Probably the way to

do it is not sell it for \$18 for students. Just do a lottery, you know? It's 18,000 people wanting 4,000 tickets. It's like...issue random numbers and give away the tickets. If you want to give away the tickets. And maybe people will resell the tickets, and that's fine. So markets are hard to understand, and you don't really know what's going on.

And that's something that drives people crazy, because most people deal with a scale of...I have my...the sociologists who looked at Facebook...it's like people have 700 friends on Facebook or whatever. Sociologists looked at the patterns of communication of people on Facebook? Guess how many friend people really have on Facebook? Five. Just like reality! Who's on your phone? Who do you call all the time? Who do you talk to all the time? Facebook, same thing. And Facebook has this thing called casual friends. But they're not friends. It's like yeah dude, but I'm not giving you my car. Right? Just because you're my Facebook friend. So people deal with very small scales. It's like a platoon. It's like five or seven people that we can deal with. 100 people max. Like this will be a community in the old school. We'd all live together, die together, fight each other, and then we'd go fight with that other tribe, but when you get into a country of 200 million people, it goes beyond comprehension.

And buying something off the internet...it's almost like an act of faith, right? I'm giving someone my credit card, and there's some guarantee somewhere and they're going to send me whatever they think I need. So there are issues with our cognitive ability to handle markets or information markets. This paper addresses that. And it's really hard for people to kind of let go and relax and kind of just walk into a market and just trust that things are going to work out. And what people in control, in power, tend to do is they say I don't like it, and I can control it. I will have power, and I will set the price here, or whatever, even though I have this massive cost of shortages or waste or externalities or something like that. So that's what this paper is all about and that's what markets are all about.

I don't think we're ever going to get through this list. Let's turn off the thingy for a second, I'm going to put in this fabulous video.

And we'll get to theory of the firm. I'm doing this because we have this break. It's only going to be five minutes, so don't fall asleep. At the start of the semester I mentioned that we're going to be going from statics to dynamics. And we're doing game theory, and this is meant to do that. And we want the video off, because this is copyright material.

[video break]

What's the game theory there? What does game theory mean? I'll wait, that's okay.

*A way of trying to make decisions based on what you think other people are going to do.*

Yeah. It's I know that you know that I know that you know that I know. Right? So when we talk about game theory, we talk about the idea that...it's the message in that book...*Economics in One Lesson*. There will be consequences for the choice you make. The consequences you should take into consideration, right? So if I have a gas station and I'm sitting next door to another gas station, and their price is 3.04, and I'm at 3.05. If I want to sell more gas, what do I do? Lower the price, okay? So now I set it to 3.03. Okay so the gas station guy next door is like, "Oh yeah, whatever." What's he going to do? Lower his price, right?

You get into, essentially, a price war. That's the response that'll be going on. Okay if I am a bus driver, and I'm making my...whatever it is...32 dollars an hour, and a bus ticket costs \$2, and someone else comes along and says, "I'll take you for \$1.50." because they're running one of these share taxis. What do you do with the bus driver?

*Get them outlawed.*

Get them outlawed? Not the bus driver. What is the incentive that the bus driver has? None right? If I drive around an empty bus all day...even better: no one wants to get on the bus...right? I just make \$18 an hour riding in circles. Do I care? Right? So this, essentially, is an example of administrative pricing situation. The price is set, you do your work, you do whatever you're doing, versus a competitive game theory price, or whatever you want to call it. So sometimes prices are going to change in response to your reaction (if you are a small business person) and sometimes they are not going to change. And if you are a bureaucrat, it's much easier to just outlaw this annoying competition that to face all those decisions about where to set prices. That's why monopolies like monopolies because they don't have to deal with all that nasty competition. And the worst monopolies are the ones that can outlaw their competition. What's one of the oldest monopolies in the United States?

*The post office?*

The post office, right? What is it...like 1898? Or 1798, 1797? Forget Microsoft. Their marketing power started in 1988, and it ended in 1998 or thereabouts. So US post office...they've faced competition since 1970s from FedEx, from UPS...e-mail has destroyed the post office, right? That's why stamps have gone up and up and up, and that's why there's more junk mail coming in our slots. But one thing the post office still has monopoly on, literally on...the mail slot, right?

It is illegal to put something on a mailslot. It is legal to put pizza flyers on your doorknob; it is not legal to put a pizza flyer through your mailslot. So they defend that monopoly very, very strongly. And they have government power to do it. They can send you to jail. If you're FedEx and you're competing against UPS, and they lower their prices, their overnight...you're \$14, you're \$12, and they're \$13, and they lower their price, are you going to respond or not? If you're FedEx. Raise your hand if they're going to respond (FedEx)? Raise your hand if they're not going to respond. Raise your hand if you're comatose. Come on you guys.

The people that were paying attention, yes you are right. So that's the way that markets work. They're very hard to figure out because...dammit I lowered my price and I want to sell more and now that guy ruined my day by lowering his price also. That's why people hate competition. They try to get out of it as often as they can.

*Then can both of them just say like...we'll set the price lower, so we don't compete...*

That's called what? Collusion, cartel...similar...they will try. This is what Adam Smith wrote about. Adam Smith, Mr. Free Market, he said that it's not more than three minutes, or something like that, after a bunch of business people get in a room that they do not collude...that they begin to collude against the public. Just paraphrasing, right? Adam Smith was no laissez faire kind of guy. He was definitely very knowledgeable about what businesses want to do. They want to maximize profits.

*I was just asking what if they...UPS set itself at \$12...*

So yeah, that's the thing. The way you can see it is airline fares. Airlines have got millions of fares. And they all are connected by very complicated computer programs, but at different offices, and United will look at all the fares of Delta and Northwestern and everybody else, and they move their prices, and there's a whole bunch of implicit collusion, essentially.

*But aren't there some of those that are in the range where they move around because they still...I mean of course the one that offers for free will get all the customers.*

They would go out of business.

*Yeah, I mean, there's only so far you could go.*

Right, so what they try and do is they send nice binders to secretaries embossed with their name on it. UPS loves you Ms. Smith. To build loyalty. Because Ms. Smith doesn't pay the cost of shipping the package, the company pays. So there's all this incentive question. So Ms. Smith is just the bus driver. She's like, "Whatever, they sent me a nice binder. I don't care if we pay \$15 for FedEx."

Have you ever worked for a company where they send FedEx, and you sent your Christmas letters on FedEx because it was on someone else's dime? I did. I'm an economist.

*What is the situation when there's like price matching?*

Like when you match the lowest price? That is considered fair competition. But there's a big interesting...if you want to know about how markets work, look at marketing people. Don't look at economists. Because marketing people are like, "How do I sell my crap?" But the price matching literature is essentially...it's the same as coupons. Coupons, you can clip out...who clips coupons? Anybody? I clipped them like crazy when I was in college. Box of cereal for a dollar, yes! But

coupon clipping is a type of discrimination. If you take the time to clip the coupon, bring it to the store, and get the product, then, okay you get a dollar off.

But a whole bunch of people don't take that time, right? They don't care about clipping coupons. Not worth their time, literally. So going through that whole price matching process...that means...okay I went over here and I go to Best Buy, and you say, "Look I got this thing, here's the proof that I need to show you so you can..." Dude, just buy it over there. So Best Buy puts it out there because when you walk into Best Buy you're like, "It's probably the most...they do price matching." But it isn't, because you didn't look around. So it's kind of a game, right? To see what's going on.

The other thing is, you know, those rebates? Who's every gotten a \$10 rebate and forgot to send it in? Doesn't that suck? It's like: "Damn I thought this was only \$90, now it's \$100 because I forgot." Right? And they also count on that, when they have these rebate claims. You only get 30 days to claim it... "Nope, sorry, we're keeping your money."

So that's kind of like...you thought you had the money, you thought you had the lower price, you bought it, and you go home, and you forget to do it...you don't put a stamp on it or whatever. So you lose your money.

*As far as airlines...[inaudible]*

Well, that might be too much price competition. Right? But also airlines have also got a lot of fixed costs. Things like pensions and pilot salaries are famously high.

*I feel like they would account for that...it doesn't even make sense.*

Yeah, the other part of the airlines is they need to run their routes in order to offer full schedule. And so you can have two airlines both losing money on the same...or three airlines losing money on one route. When it gets down to one, they start making big profit because they're monopolizing that route. There's an interesting literature on, literally on routing in airlines. And it's basically...the more airlines you add to a route, the cheaper the price gets, but you need to be able to drive out the high cost airline. But typically they don't get driven out because they declare bankruptcy, they throw out all their debt they accumulated being dumb, and they go back into business with lower prices again. So consumers are served, but stockholders are not. That's why it's a bad idea to buy airline stocks. Anything else? Anymore free financial advice?

Okay so let me roll through this thing here. And that's part of the...oh we only have two minutes. So I'll finish up on the walkout thing. And then we'll get to theory of the firm. So the walkout thing, it's not like I have a lot of data on the walkout. But I want to point out some more incentives. The walkout was all about we protest because we want our administrative costs to be lowered by somebody who gets to lower things (they just change the number). And that's a form of political action. If the cost of coffee at Starbucks or at Yali's or whatever...if they raise the price of their

cappuccino from \$2.50 to \$2.80, the people just walk down the street and go to Starbucks. Or they go to Peet's or they go to wherever else, right? They're competing on price; you vote with your feet in markets. You just go somewhere else. Online it's very simple. Click, click, click, you do a price comparison. So you have a lot more autonomy in terms of how much you pay because you just switch firms. And those firms get the feedback because they see those sales fall.

But in a monopoly or a political situation, price negotiation is either take it or leave it, here's the price, or we protest politically (we call our congressman or whatever). So there's a very different way of setting prices in administrative form versus in a market place. In water, which is an area I spend a lot of time, it's one of the most dysfunction and inefficient segments of...anywhere because almost every water utility is a local monopoly. You can't get (I mentioned this a long time ago) tap water from somewhere else, right? You can buy bottled water from somewhere else. You can buy coke instead of bottled water. But tap water comes from wherever your monopoly is. And they are regulated. They are regulated by either politicians or by regulators. So here's the thing that's interesting.

So the university...so you guys basically face this huge cost of switching universities. They say, "Walk out, go to Stanford! Go to San Diego (UC San Diego, wrong place) go to San Francisco State!"

That's a huge cost. It's not just transferring transcript; you've got to move, you've got to lose all your friends (but they're on Facebook still) and you have to...you go from one place to another. And the thing that's interesting is...I look at this in terms of an academic study. And I look at two dimensions. One is competition among universities for applications based on the cost of applying. The admissions application fee. Those prices turn out to be very competitive. But the fee that is not competitive is the transcript fee, right? You can only get it from your alma mater. And I thought the economic theory was they would screw you on your transcript fee. And the UC actually is like \$12 or something like that to get your transcript? But believe it or not, Harvard, Yale, Stanford, they charge zero for transcripts. Why is that? Why would they charge zero?

*Already included in fees?*

They roll it into the fees, but more important than that? It's not just a bundling example.

*They want people from their school to apply to many different jobs, so they can get their jobs...*

That's a good idea as well because they want to help you distribute transcripts to grad schools. But I looked at one thing that's interesting is that between the cost of the transcript fee and the percentage of alumni who donate money. The game doesn't end when you graduate. Right? That's the key thing.

So what my point is on universities it that there's a lot of different actors or different incentives and goals fighting with each other. You've got the cost of transcripts, which is \$12, you've got the cost of development people, development is actually money-raising. They say we want it lowered, we want donations, okay? And inside any organization, you're going to have struggles between different groups of administrators, leaders, sales people, whatever. And we'll do more on that on Thursday.

**Transcribed and checked for accuracy by Brynna Bunnag**